

RF Test Data for Bluetooth (BDR+EDR) (Conducted Measurements)

General Description of EUT	
Product Name:	Bluetooth Speaker
Test Model:	D1
Sample ID:	20211125-05_01-02
Environmental Conditions	
Temperature:	25℃
Relative Humidity:	55%
Test Voltage:	DC 3.7V
Test Engineer:	Huangjianping
Note: For a more detailed features description, please refer to the report TB-FCC186189	

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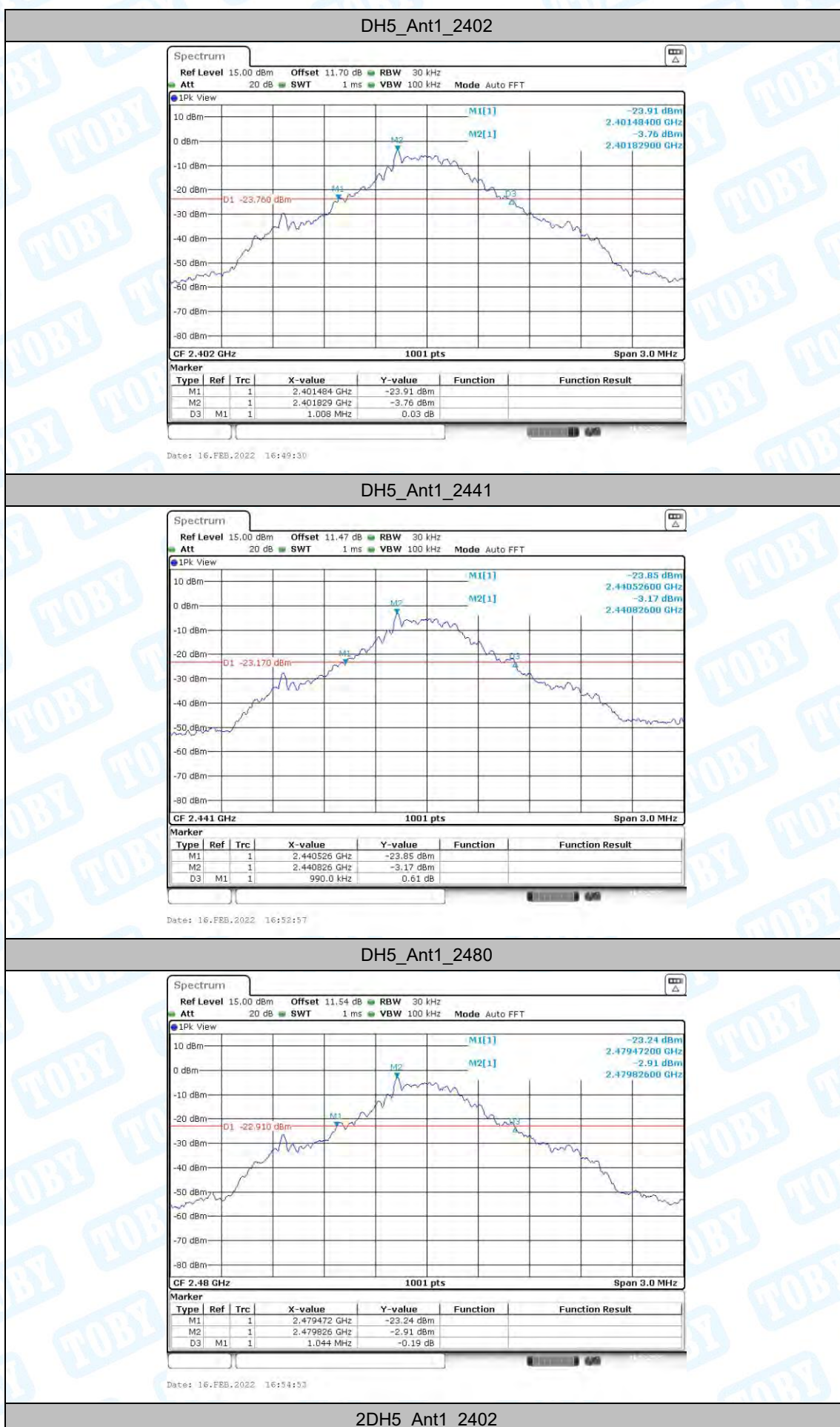
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1. 20dB Emission Bandwidth

1.1. Test Result

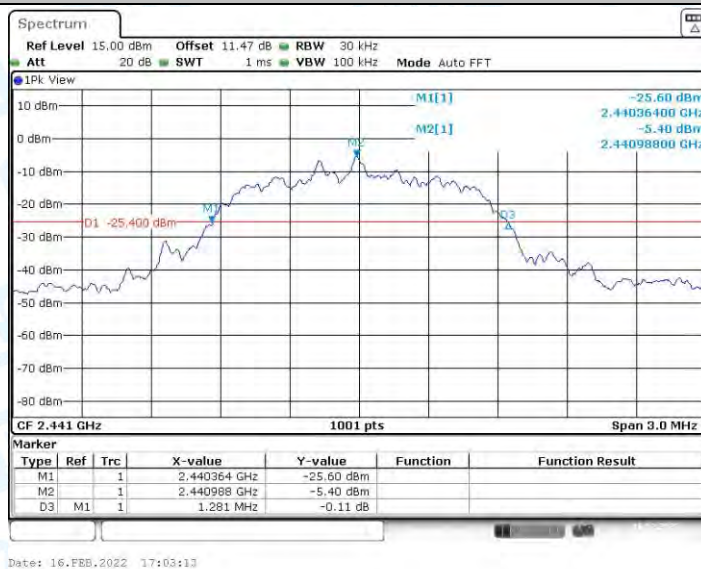
TestMode	Antenna	Channel	20db EBW[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	1.01	---	---
		2441	0.99	---	---
		2480	1.04	---	---
2DH5	Ant1	2402	1.28	---	---
		2441	1.28	---	---
		2480	1.28	---	---
3DH5	Ant1	2402	1.25	---	---
		2441	1.25	---	---
		2480	1.24	---	---

1.2. Test Graphs

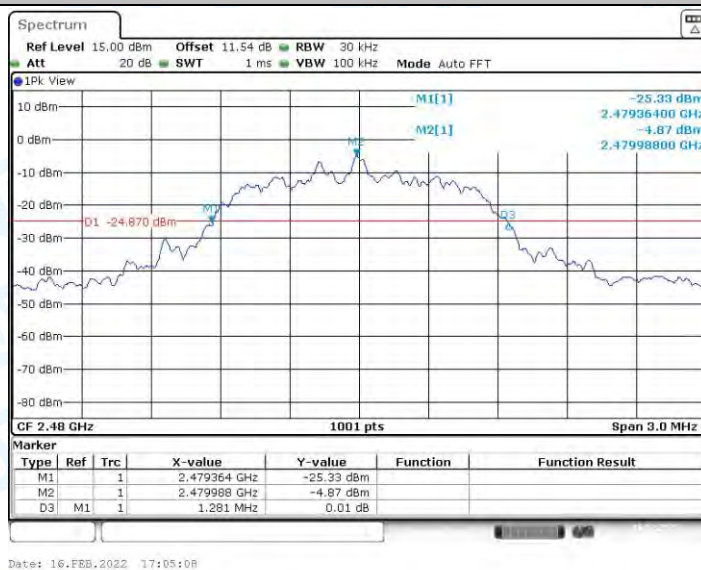




2DH5_Ant1_2441



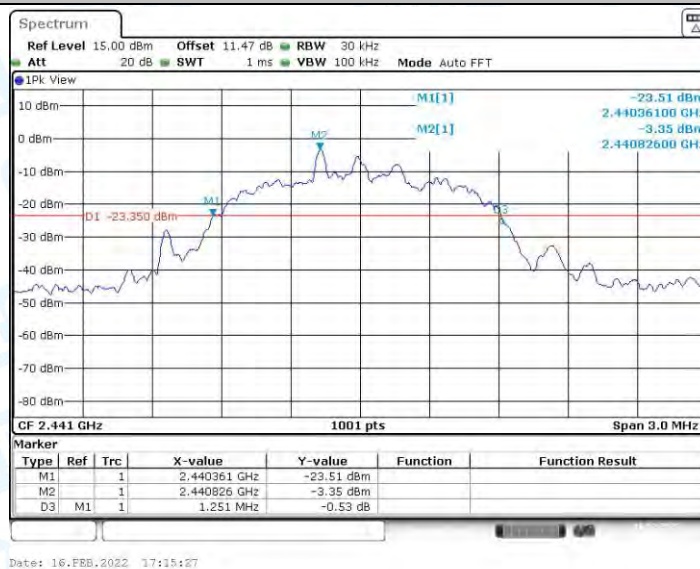
2DH5_Ant1_2480



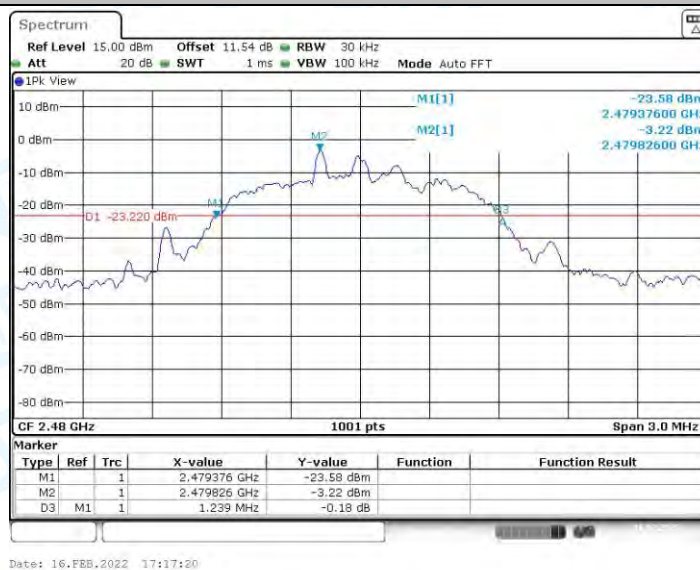
3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480

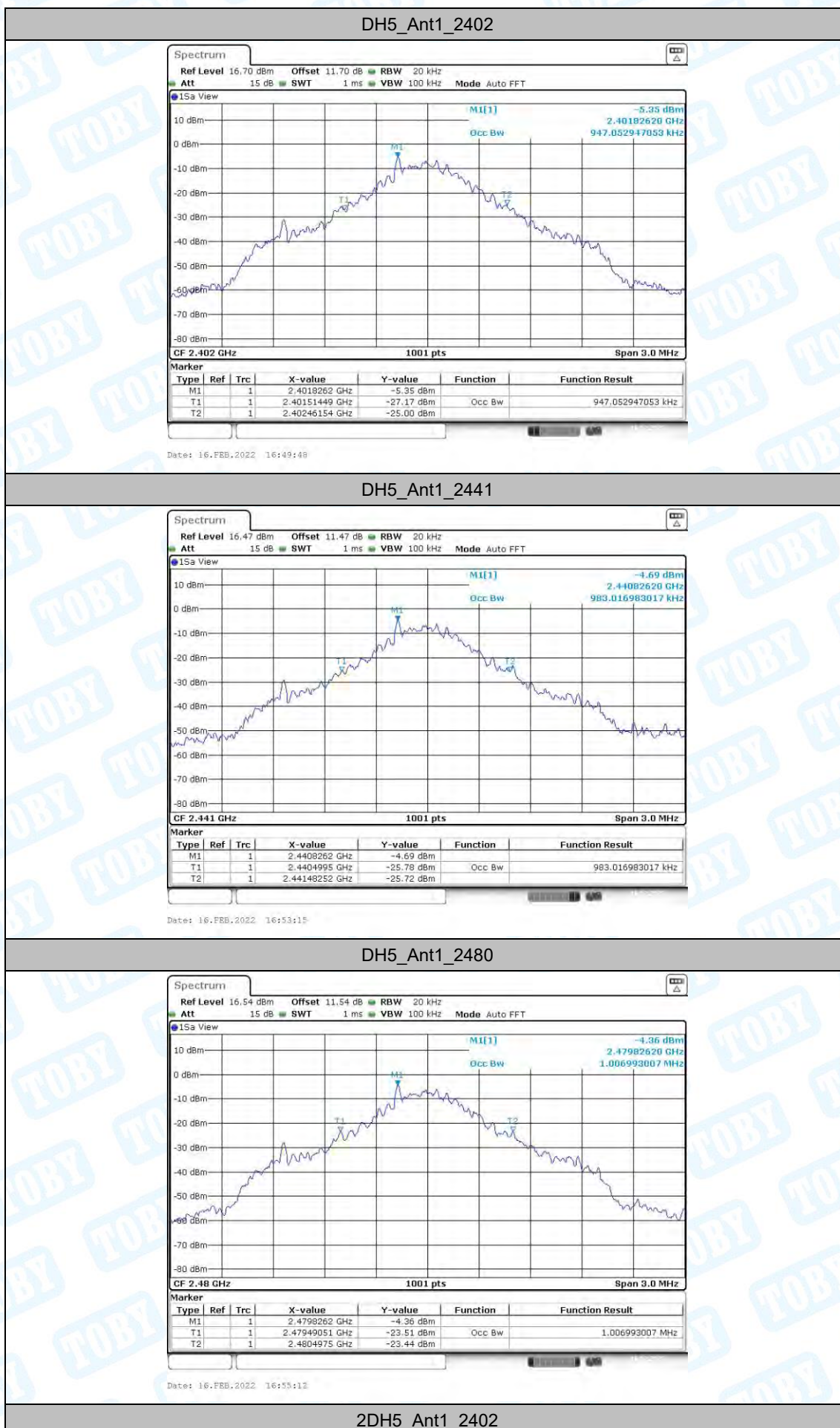


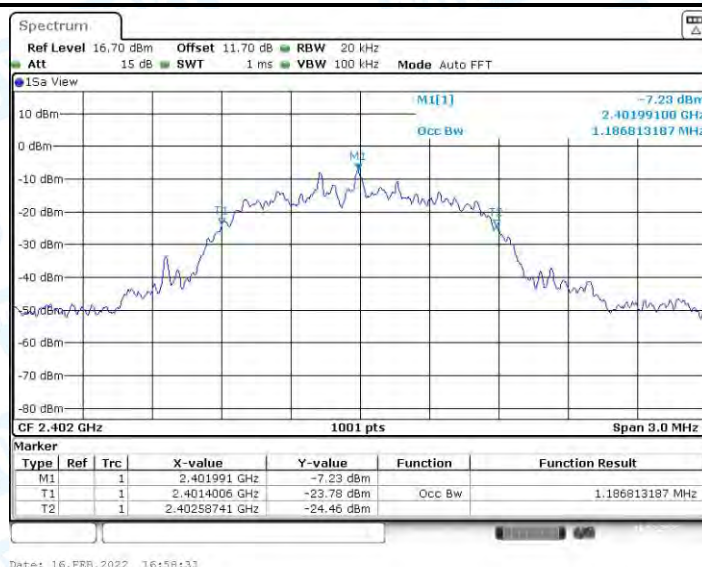
2. Occupied Channel Bandwidth

2.1. Test Result

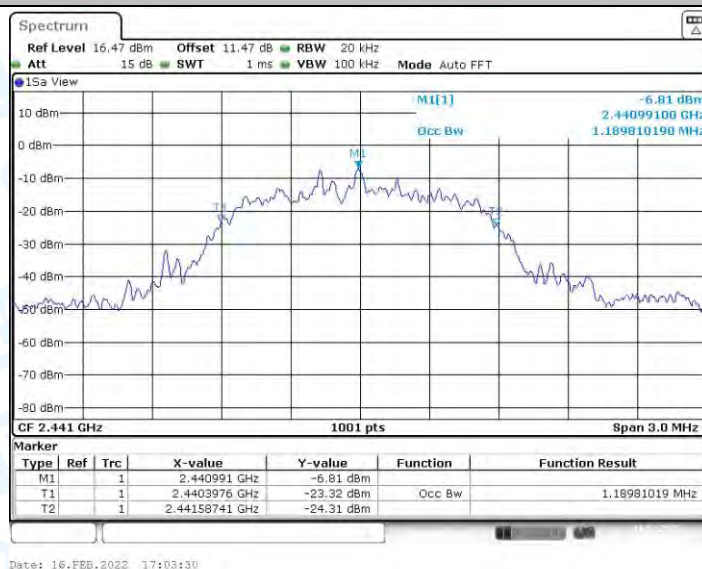
TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.947	2401.514	2402.462	---	---
		2441	0.983	2440.500	2441.483	---	---
		2480	1.007	2479.491	2480.498	---	---
2DH5	Ant1	2402	1.187	2401.401	2402.587	---	---
		2441	1.19	2440.398	2441.587	---	---
		2480	1.196	2479.395	2480.590	---	---
3DH5	Ant1	2402	1.178	2401.404	2402.581	---	---
		2441	1.184	2440.395	2441.578	---	---
		2480	1.19	2479.392	2480.581	---	---

2.2. Test Graphs

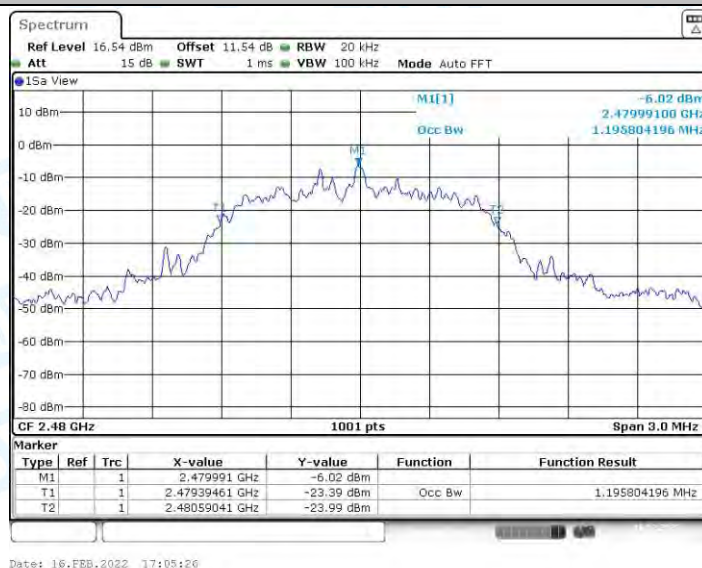




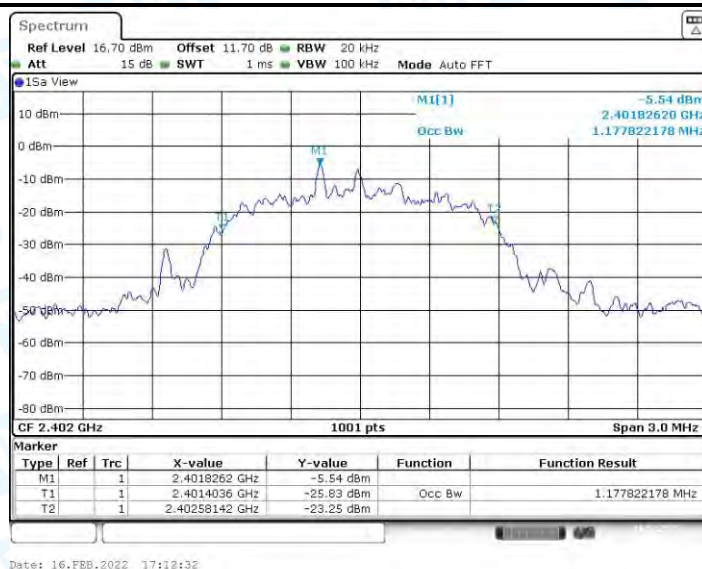
2DH5_Ant1_2441



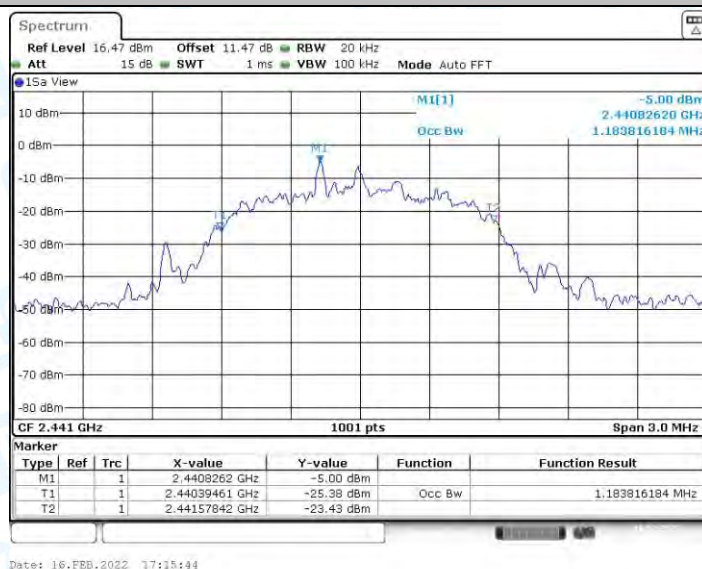
2DH5_Ant1_2480



3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480



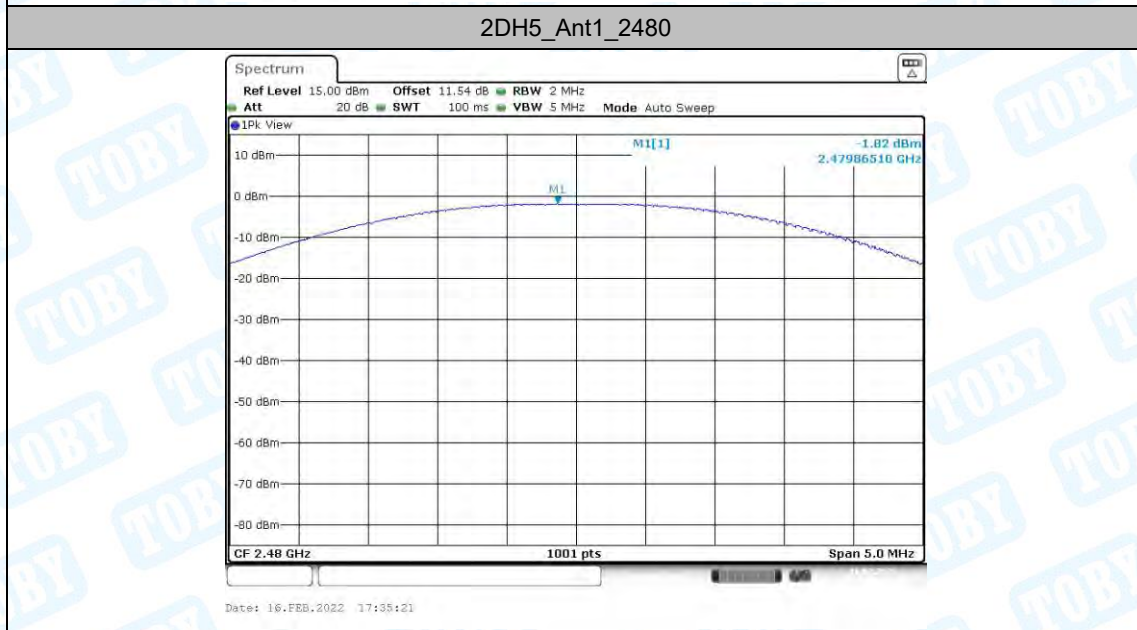
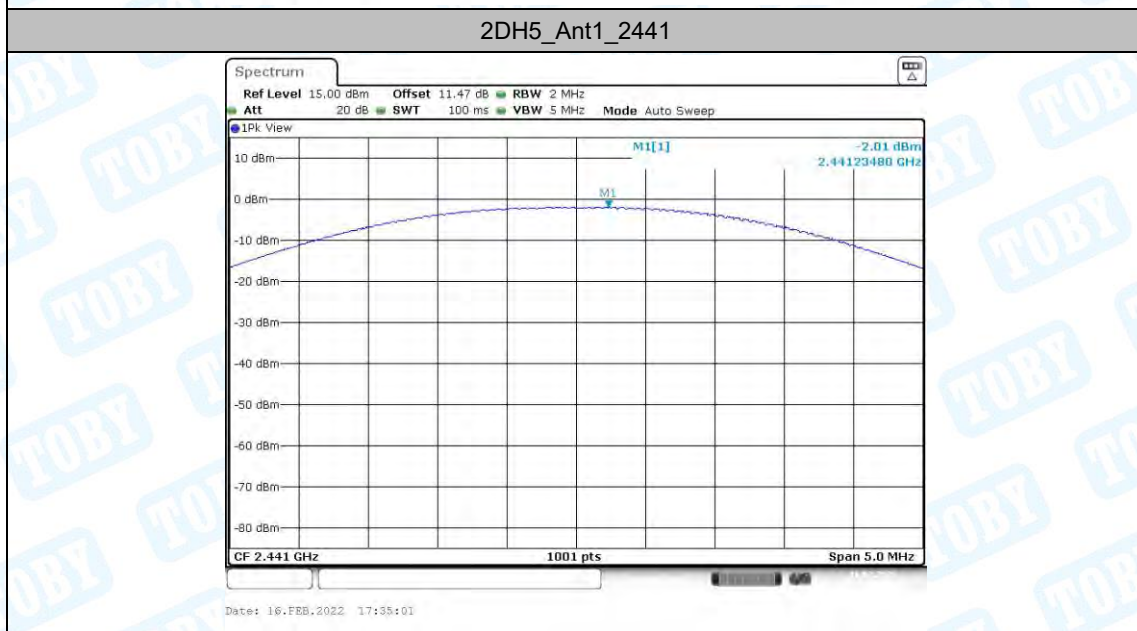
3. Maximum conducted output power

3.1. Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant1	2402	-2.41	≤20.97	PASS
		2441	-1.99	≤20.97	PASS
		2480	-1.76	≤20.97	PASS
2DH5	Ant1	2402	-2.39	≤20.97	PASS
		2441	-2.01	≤20.97	PASS
		2480	-1.82	≤20.97	PASS
3DH5	Ant1	2402	-2.11	≤20.97	PASS
		2441	-1.71	≤20.97	PASS
		2480	-1.56	≤20.97	PASS

3.2.Test Graphs



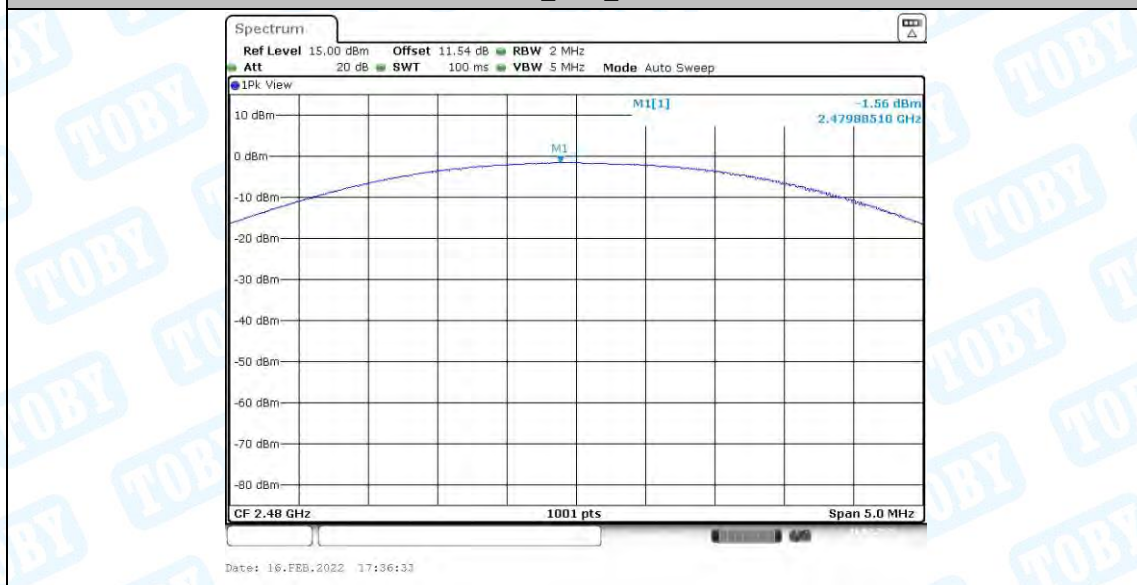




3DH5_Ant1_2441



3DH5_Ant1_2480



4. Carrier frequency separation

4.1. Test Result

TestMode	Antenna	Channel	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	1.003	≥ 0.693	PASS
2DH5	Ant1	Hop	0.893	≥ 0.853	PASS
3DH5	Ant1	Hop	0.957	≥ 0.833	PASS

4.2. Test Graphs

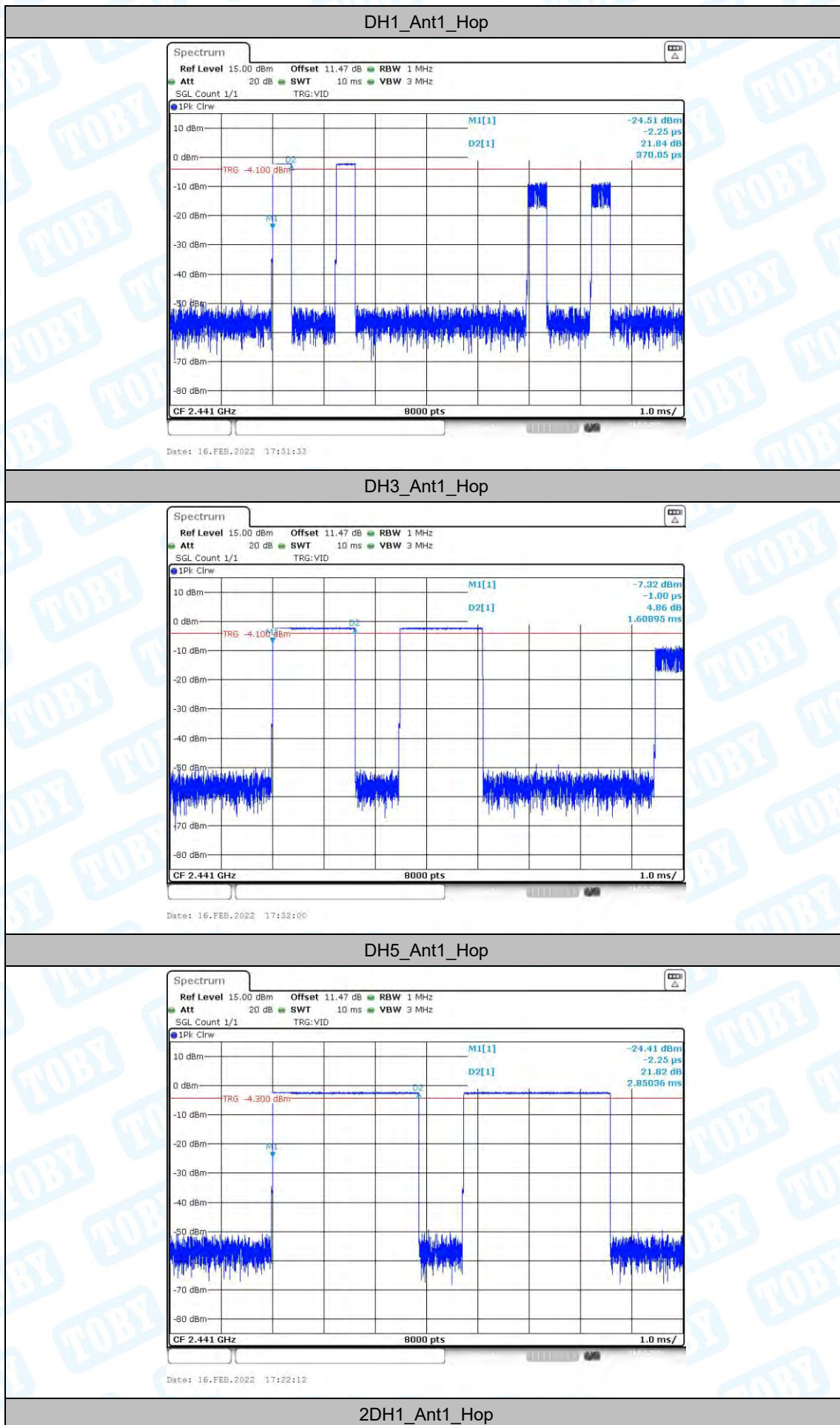


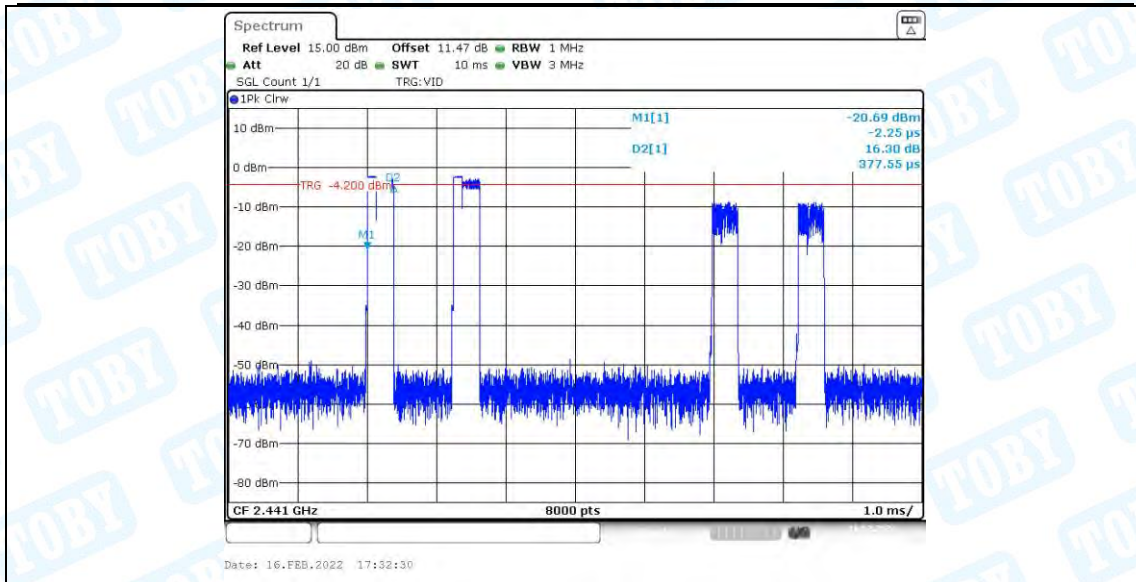
5. Time of occupancy

5.1. Test Result

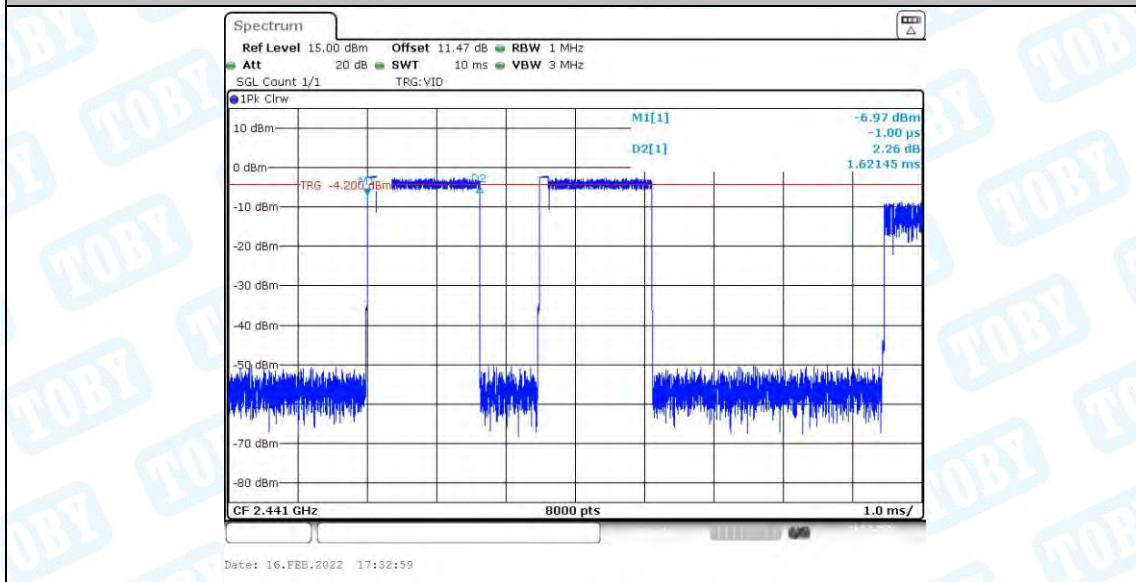
TestMode	Antenna	Channel	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH1	Ant1	Hop	0.37	320	0.118	≤0.4	PASS
DH3	Ant1	Hop	1.61	160	0.257	≤0.4	PASS
DH5	Ant1	Hop	2.85	106.67	0.304	≤0.4	PASS
2DH1	Ant1	Hop	0.38	320	0.121	≤0.4	PASS
2DH3	Ant1	Hop	1.62	160	0.259	≤0.4	PASS
2DH5	Ant1	Hop	2.86	106.67	0.305	≤0.4	PASS
3DH1	Ant1	Hop	0.38	320	0.121	≤0.4	PASS
3DH3	Ant1	Hop	1.62	160	0.259	≤0.4	PASS
3DH5	Ant1	Hop	2.86	106.67	0.305	≤0.4	PASS

5.2.Test Graphs

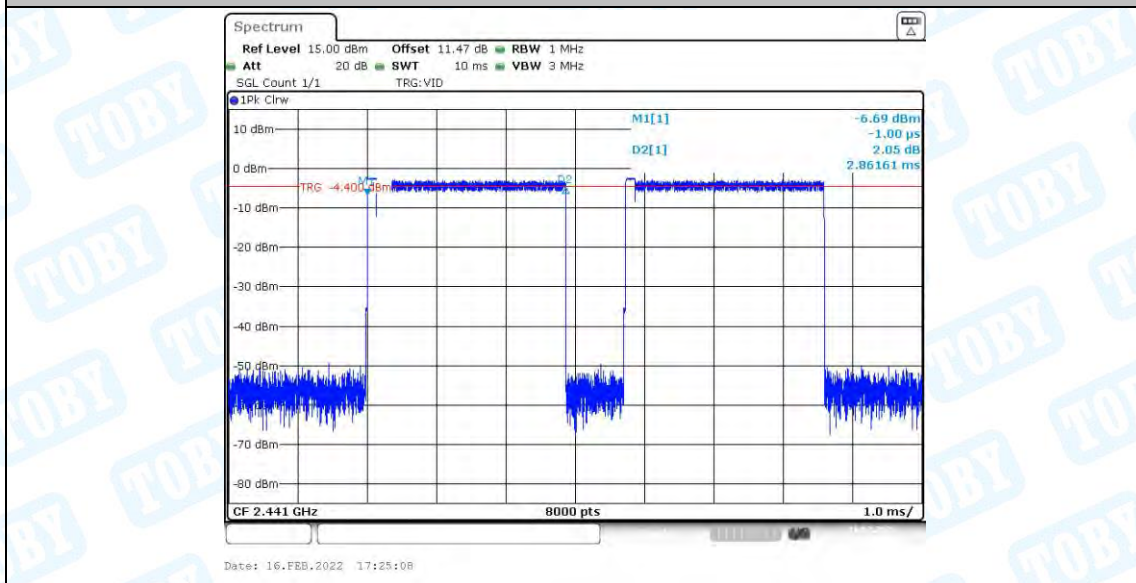




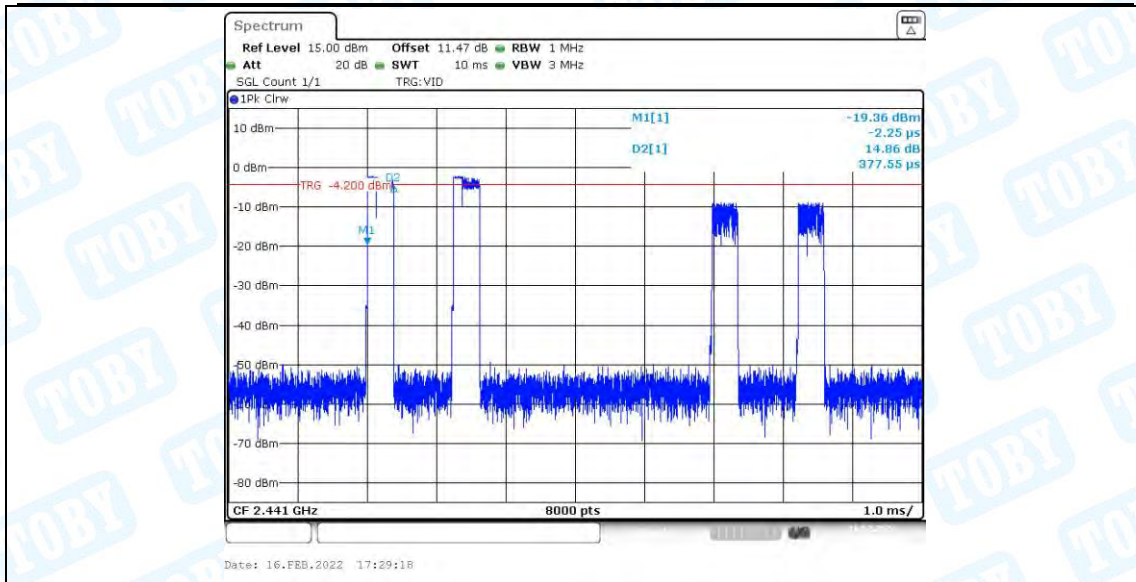
2DH3_Ant1_Hop



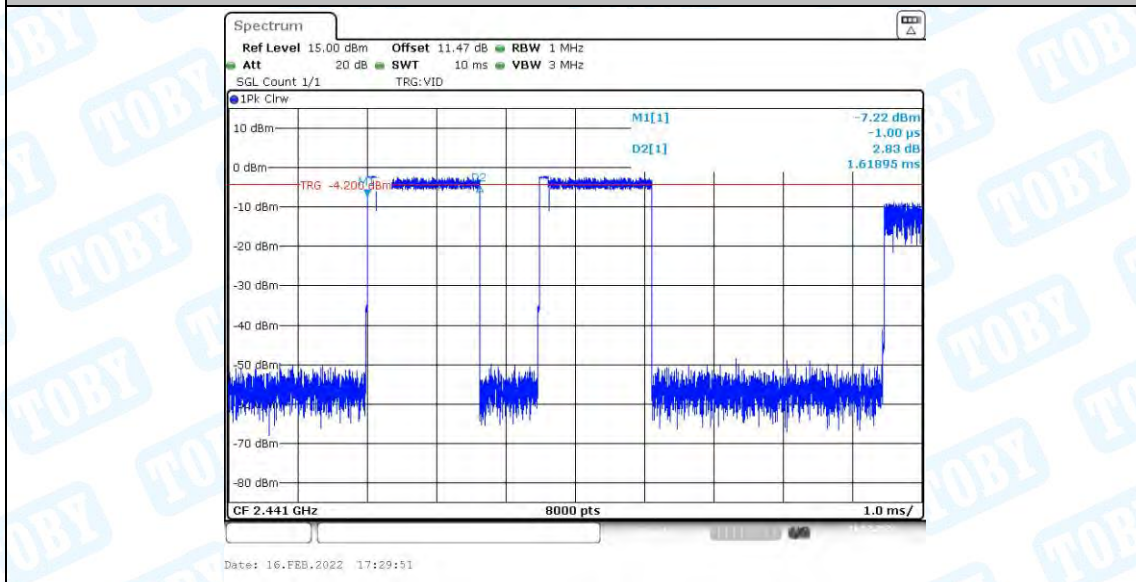
2DH5_Ant1_Hop



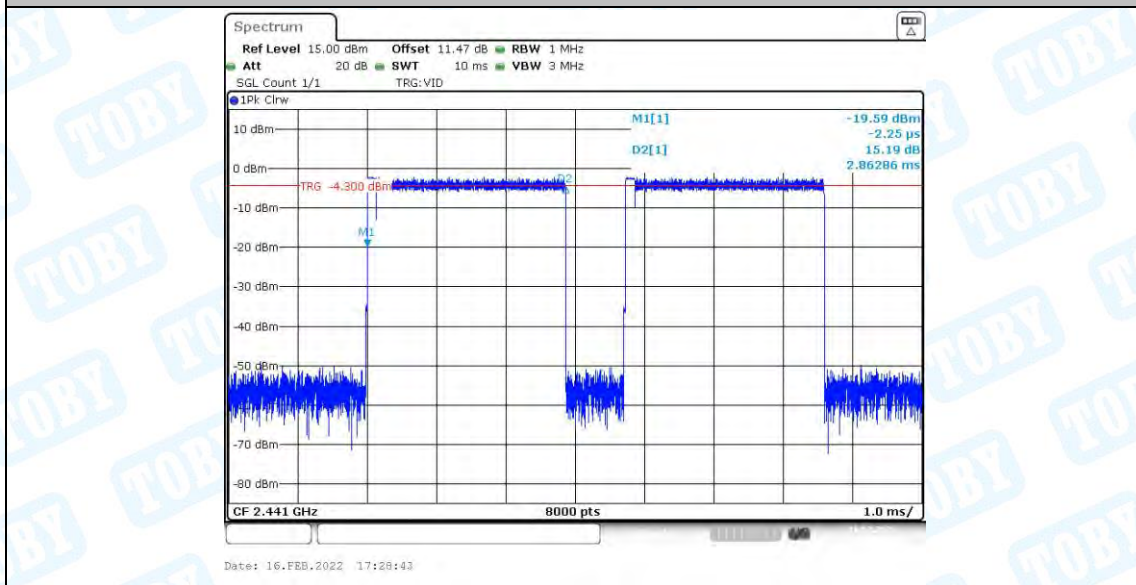
3DH1_Ant1_Hop



3DH3_Ant1_Hop



3DH5_Ant1_Hop



6. Number of hopping channels

6.1. Test Result

TestMode	Antenna	Channel	Result[Num]	Limit[Num]	Verdict
DH5	Ant1	Hop	79	≥15	PASS
2DH5	Ant1	Hop	79	≥15	PASS
3DH5	Ant1	Hop	79	≥15	PASS

6.2.Test Graphs

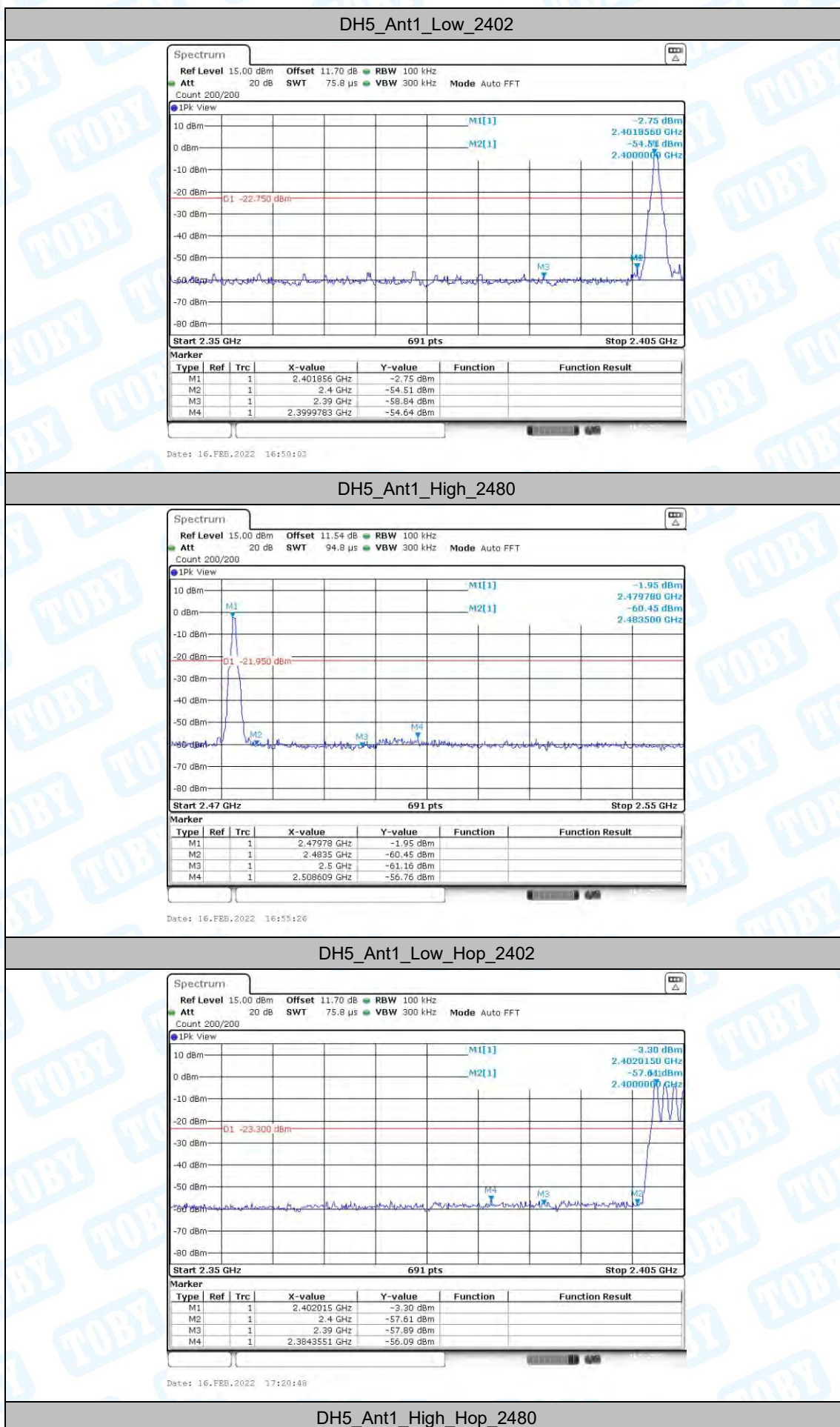


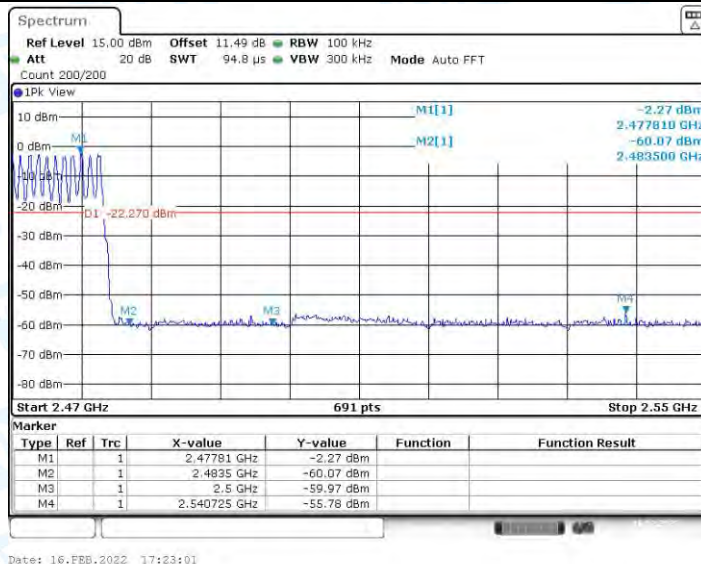
7. Band edge measurements

7.1. Test Result

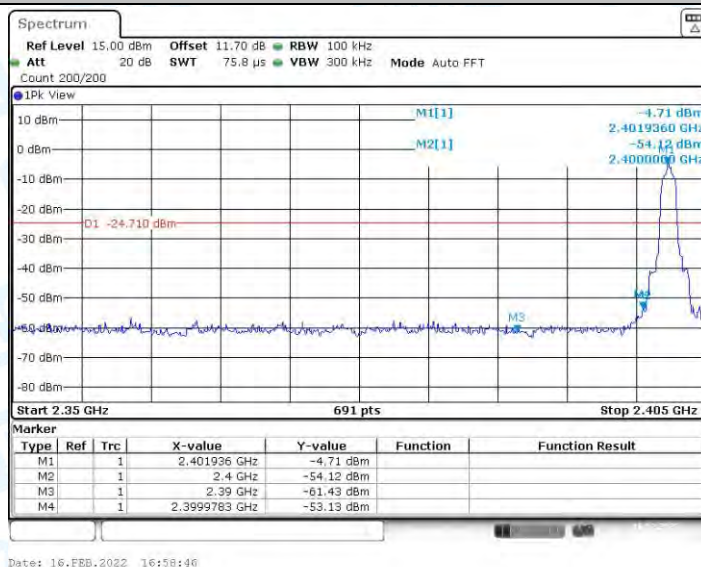
TestMode	Antenna	ChName	Channel	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	-2.75	-54.64	≤ -22.75	PASS
		High	2480	-1.95	-56.76	≤ -21.95	PASS
		Low	Hop_2402	-3.30	-56.09	≤ -23.3	PASS
		High	Hop_2480	-2.27	-55.78	≤ -22.27	PASS
2DH5	Ant1	Low	2402	-4.71	-53.13	≤ -24.71	PASS
		High	2480	-2.34	-55.94	≤ -22.34	PASS
		Low	Hop_2402	-8.10	-57.52	≤ -28.1	PASS
		High	Hop_2480	-3.02	-56.99	≤ -23.02	PASS
3DH5	Ant1	Low	2402	-2.75	-55.12	≤ -22.75	PASS
		High	2480	-2.93	-57.02	≤ -22.93	PASS
		Low	Hop_2402	-6.25	-56.36	≤ -26.25	PASS
		High	Hop_2480	-3.72	-56.51	≤ -23.72	PASS

7.2. Test Graphs

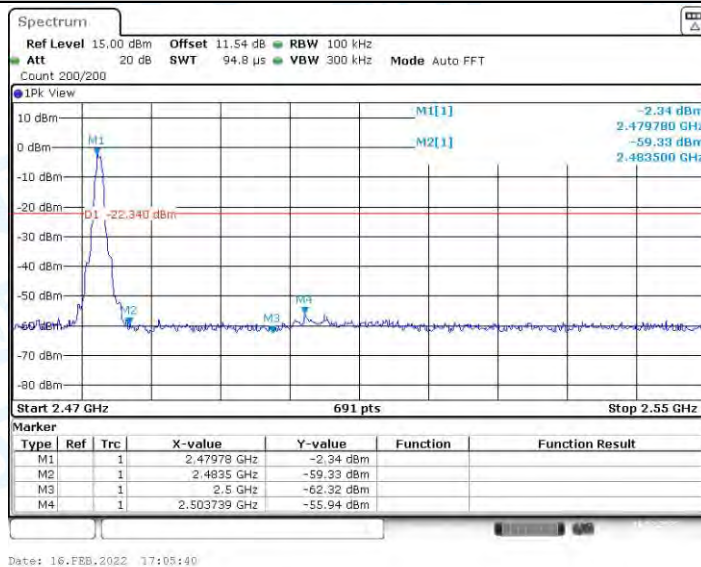




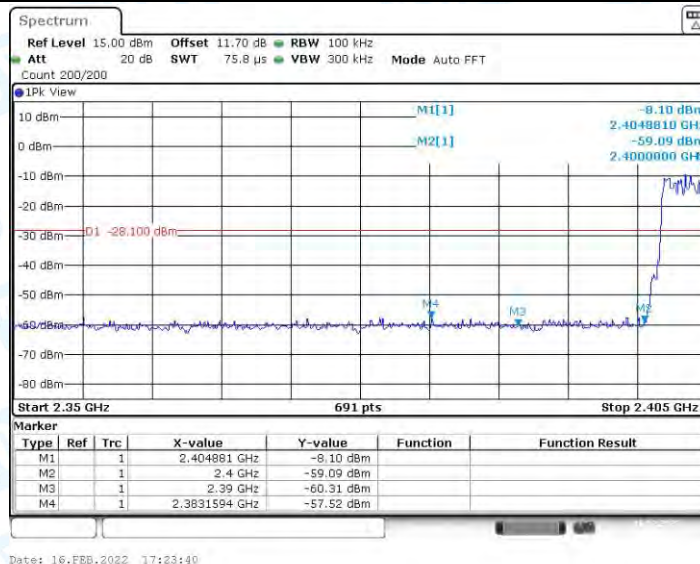
2DH5_Ant1_Low_2402



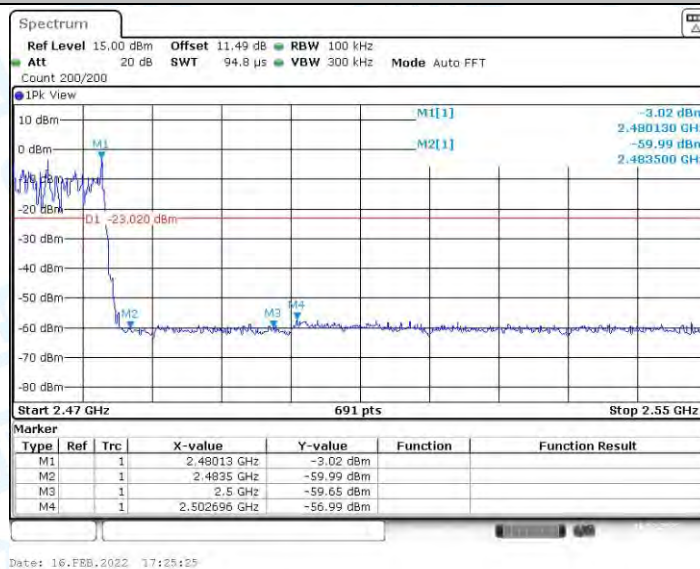
2DH5_Ant1_High_2480



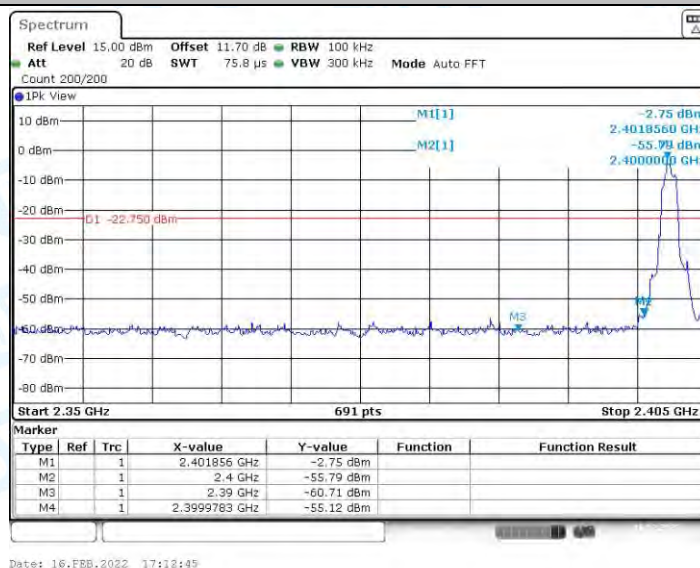
2DH5_Ant1_Low_Hop_2402



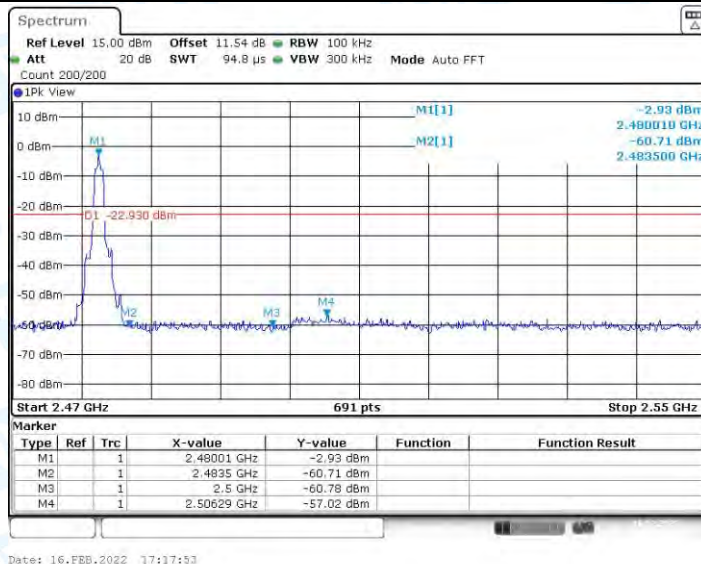
2DH5_Ant1_High_Hop_2480



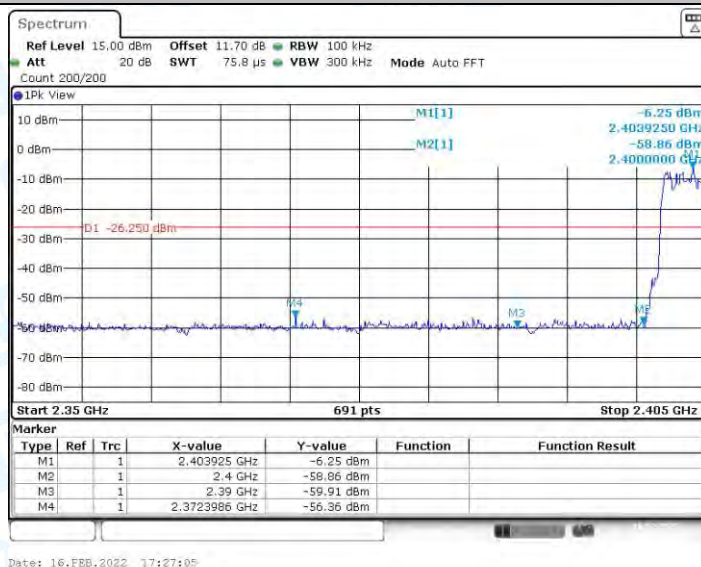
3DH5_Ant1_Low_2402



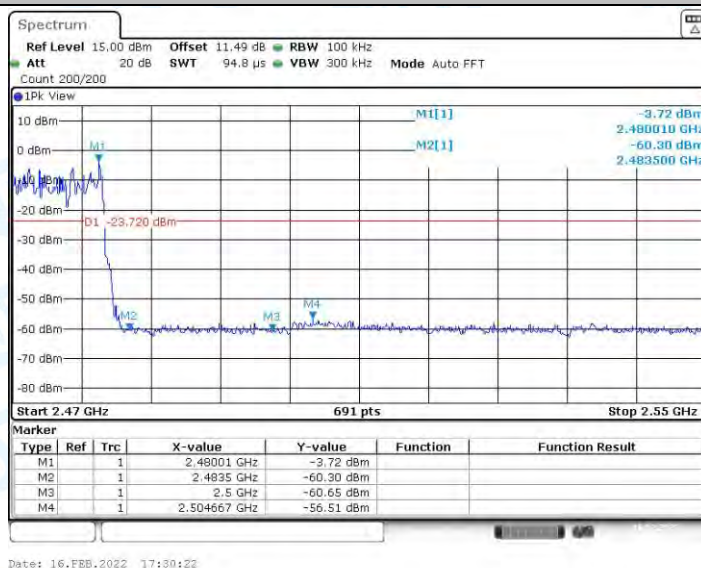
3DH5_Ant1_High_2480



3DH5_Ant1_Low_Hop_2402



3DH5_Ant1_High_Hop_2480

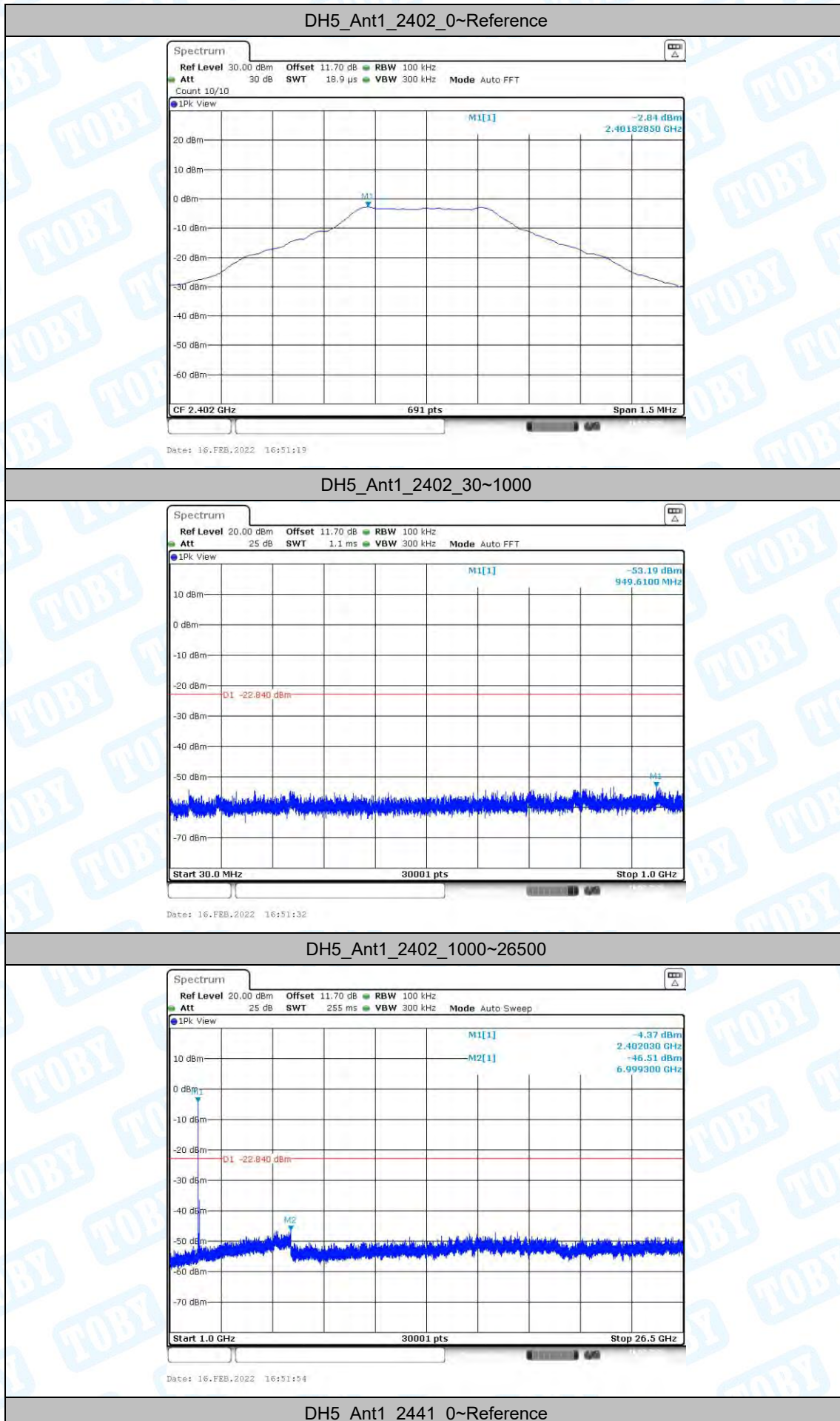


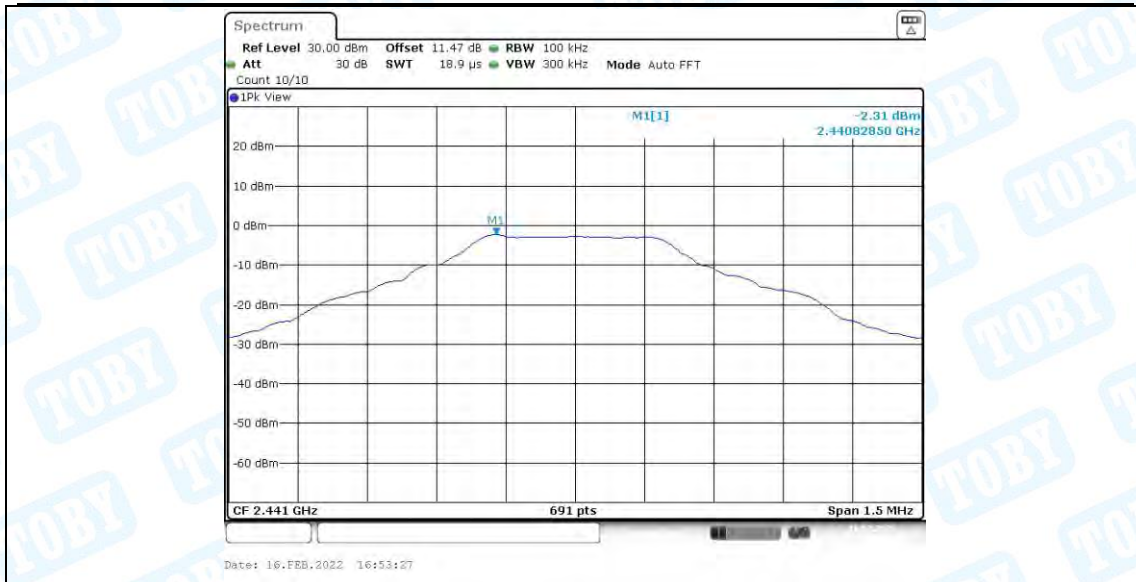
8. Conducted Spurious Emission

8.1. Test Result

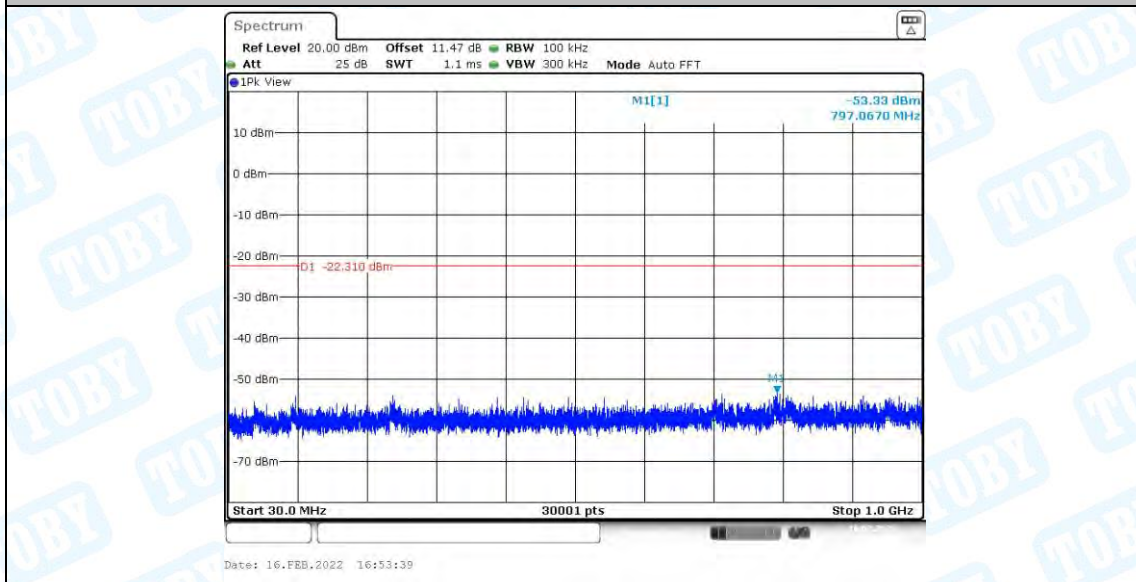
TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	Reference	-2.84	-2.84	---	PASS
			30~1000	-2.84	-53.19	≤-22.84	PASS
			1000~26500	-2.84	-46.51	≤-22.84	PASS
		2441	Reference	-2.31	-2.31	---	PASS
			30~1000	-2.31	-53.33	≤-22.31	PASS
			1000~26500	-2.31	-46.91	≤-22.31	PASS
		2480	Reference	-2.08	-2.08	---	PASS
			30~1000	-2.08	-53.11	≤-22.08	PASS
			1000~26500	-2.08	-46.92	≤-22.08	PASS
2DH5	Ant1	2402	Reference	-3.09	-3.09	---	PASS
			30~1000	-3.09	-53.31	≤-23.09	PASS
			1000~26500	-3.09	-46.86	≤-23.09	PASS
		2441	Reference	-2.48	-2.48	---	PASS
			30~1000	-2.48	-53.16	≤-22.48	PASS
			1000~26500	-2.48	-46.36	≤-22.48	PASS
		2480	Reference	-2.30	-2.30	---	PASS
			30~1000	-2.30	-52.76	≤-22.3	PASS
			1000~26500	-2.30	-45.99	≤-22.3	PASS
3DH5	Ant1	2402	Reference	-2.88	-2.88	---	PASS
			30~1000	-2.88	-53.29	≤-22.88	PASS
			1000~26500	-2.88	-46.88	≤-22.88	PASS
		2441	Reference	-2.43	-2.43	---	PASS
			30~1000	-2.43	-53.39	≤-22.43	PASS
			1000~26500	-2.43	-46.51	≤-22.43	PASS
		2480	Reference	-2.24	-2.24	---	PASS
			30~1000	-2.24	-53.39	≤-22.24	PASS
			1000~26500	-2.24	-47.45	≤-22.24	PASS

8.2.Test Graphs

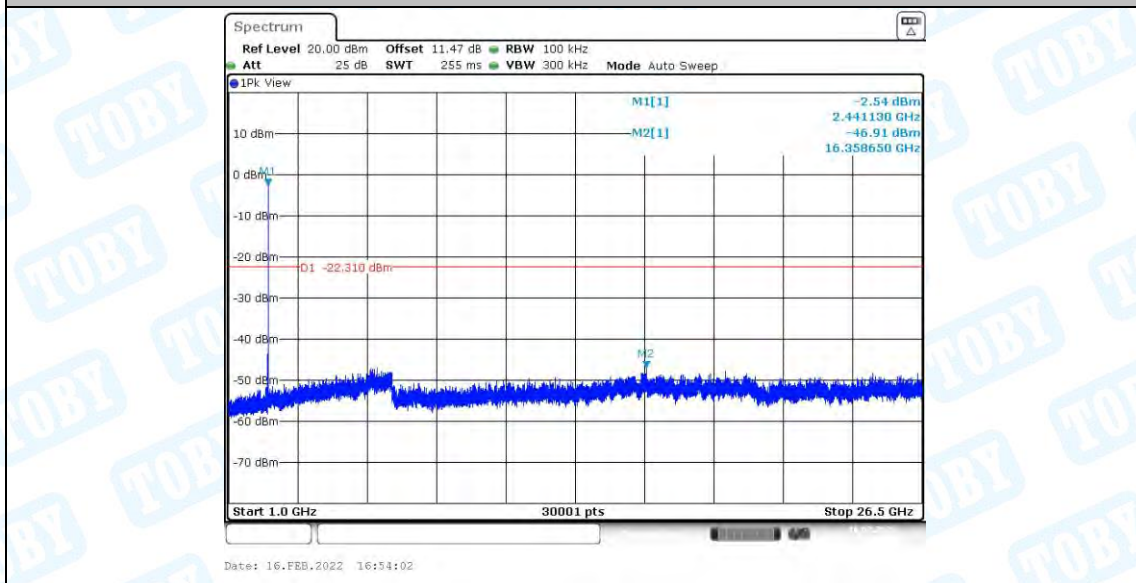




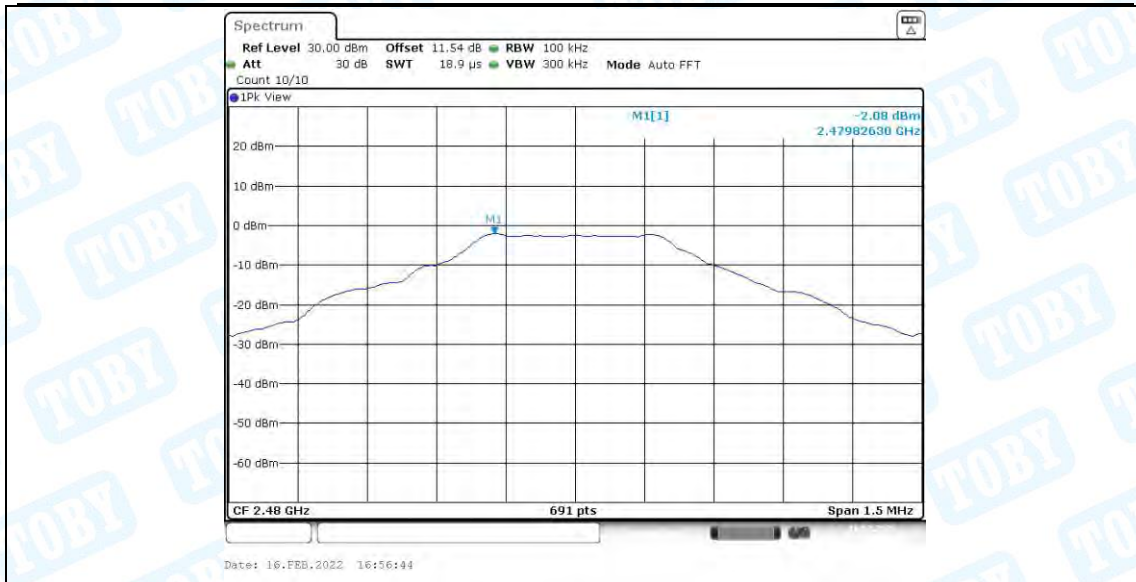
DH5_Ant1_2441_30~1000



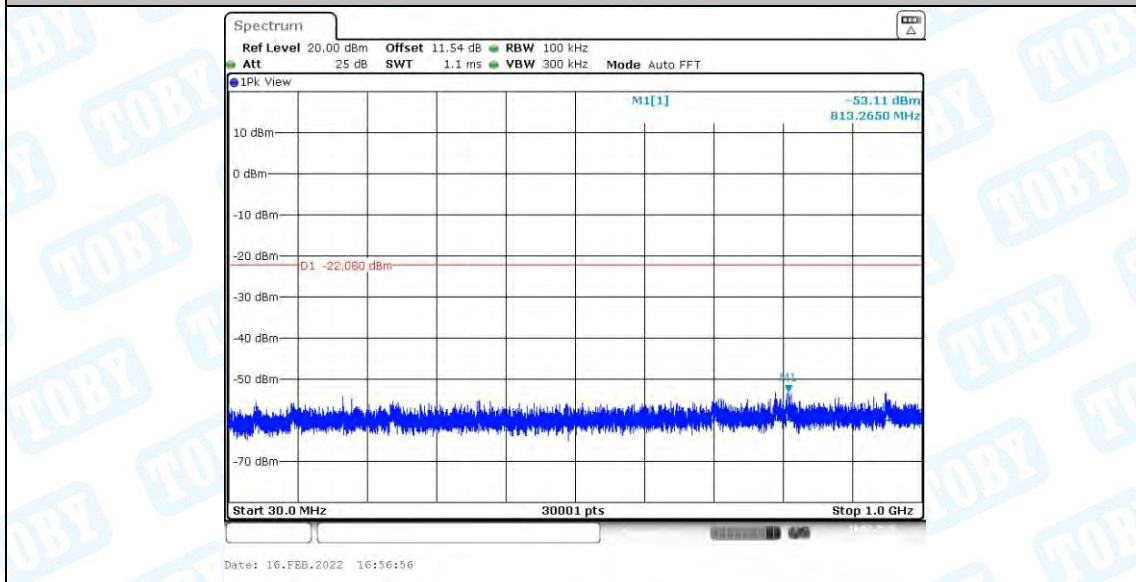
DH5_Ant1_2441_1000~26500



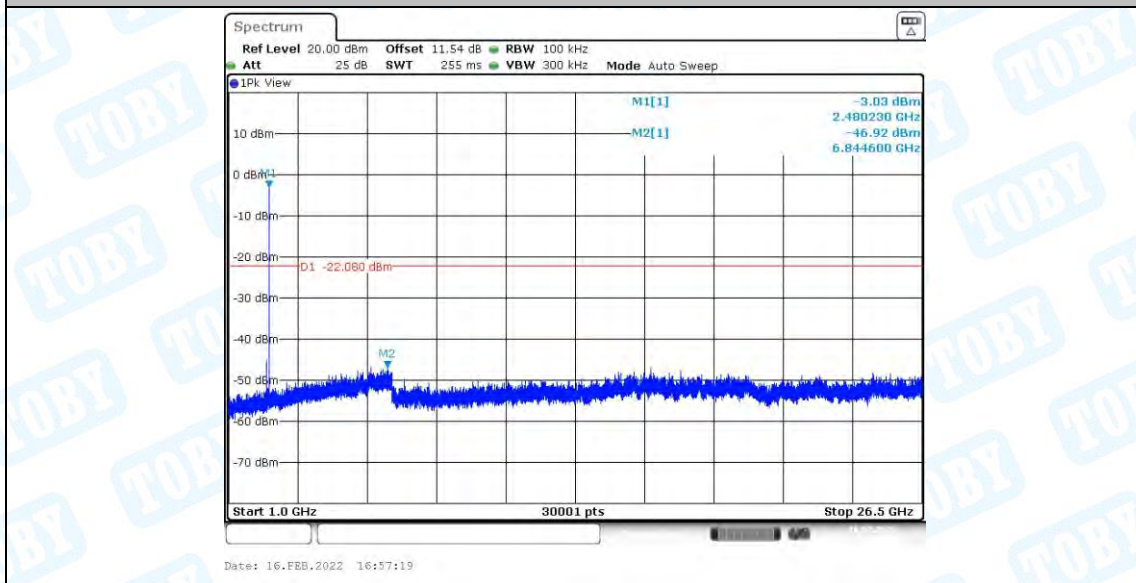
DH5_Ant1_2480_0~Reference



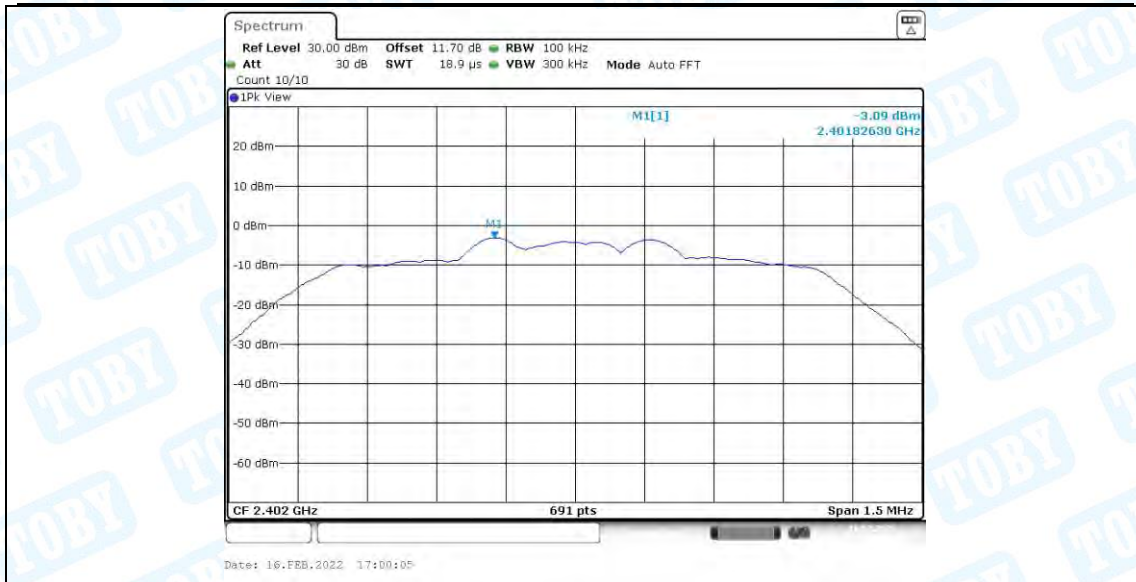
DH5_Ant1_2480_30~1000



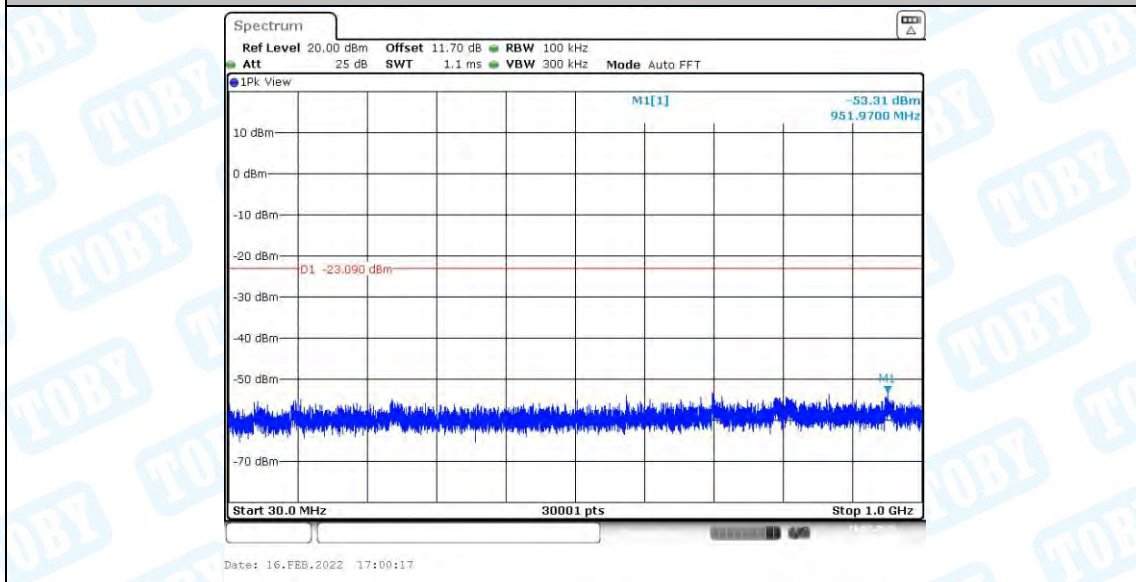
DH5_Ant1_2480_1000~26500



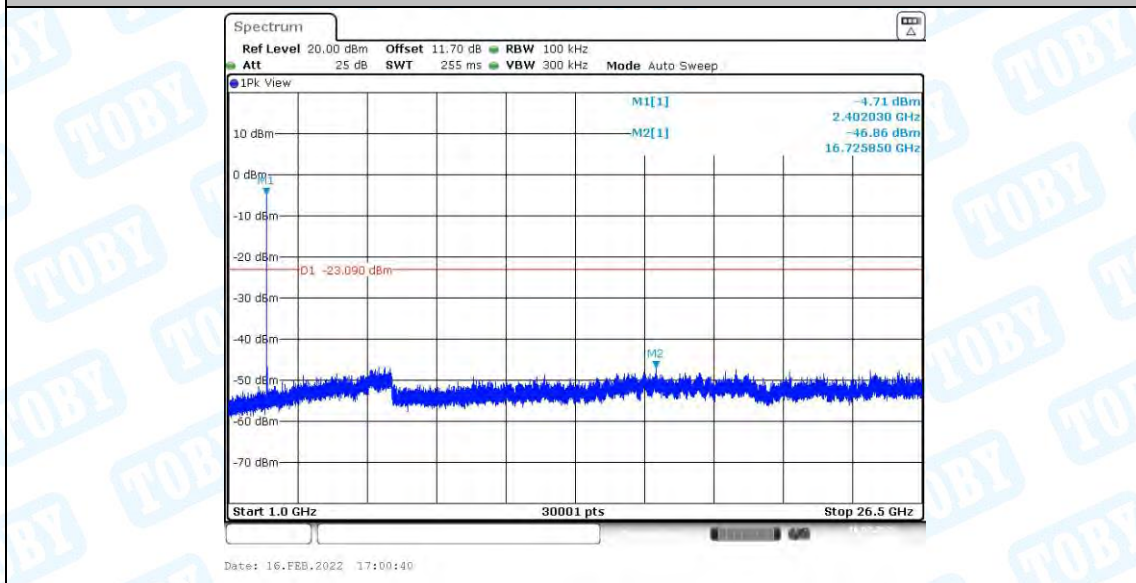
2DH5_Ant1_2402_0~Reference



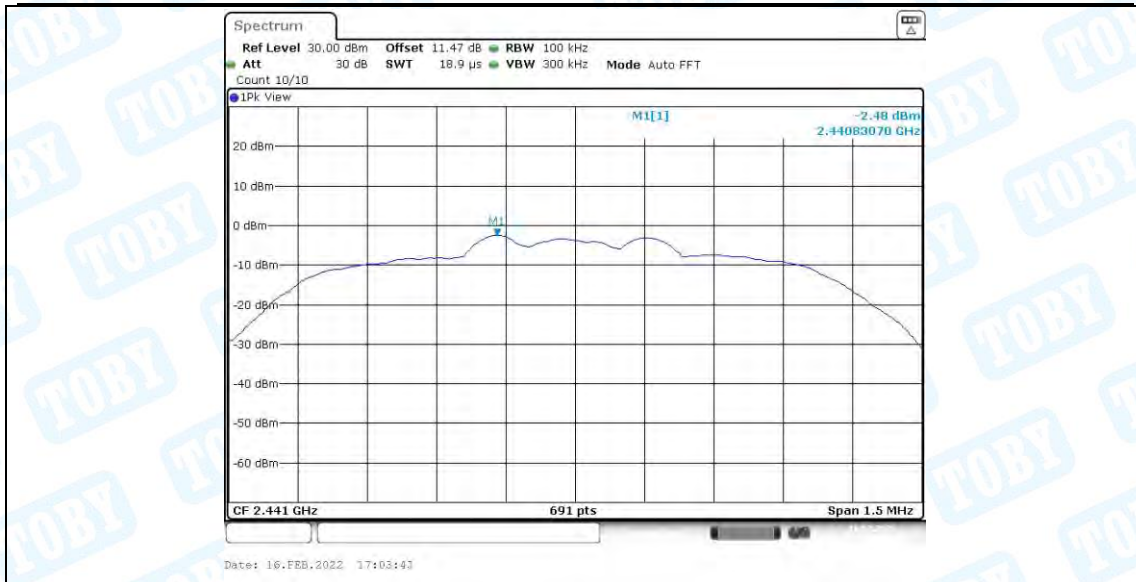
2DH5_Ant1_2402_30~1000



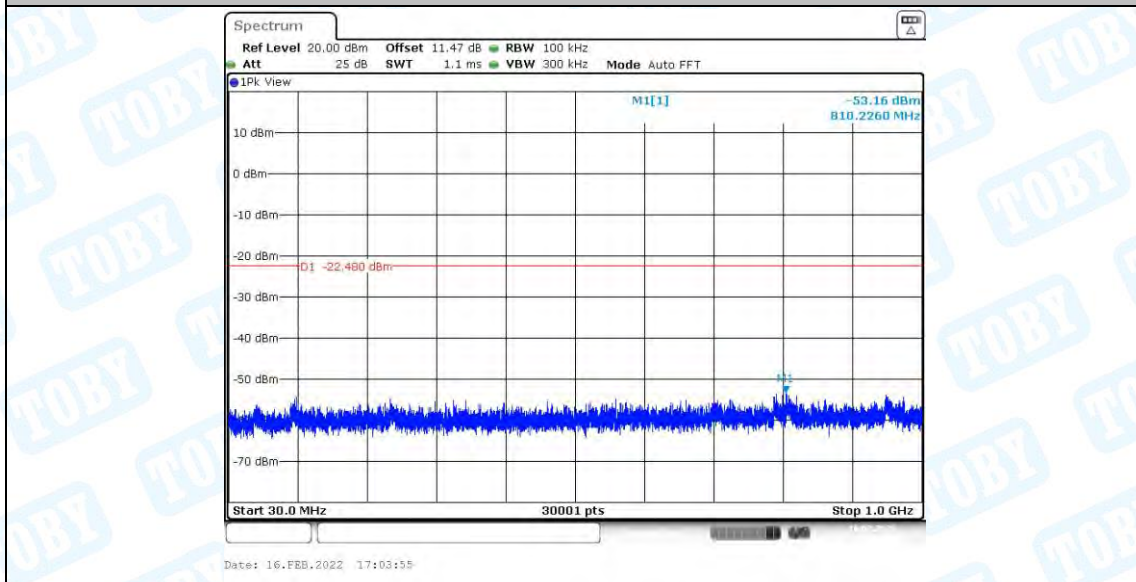
2DH5_Ant1_2402_1000~26500



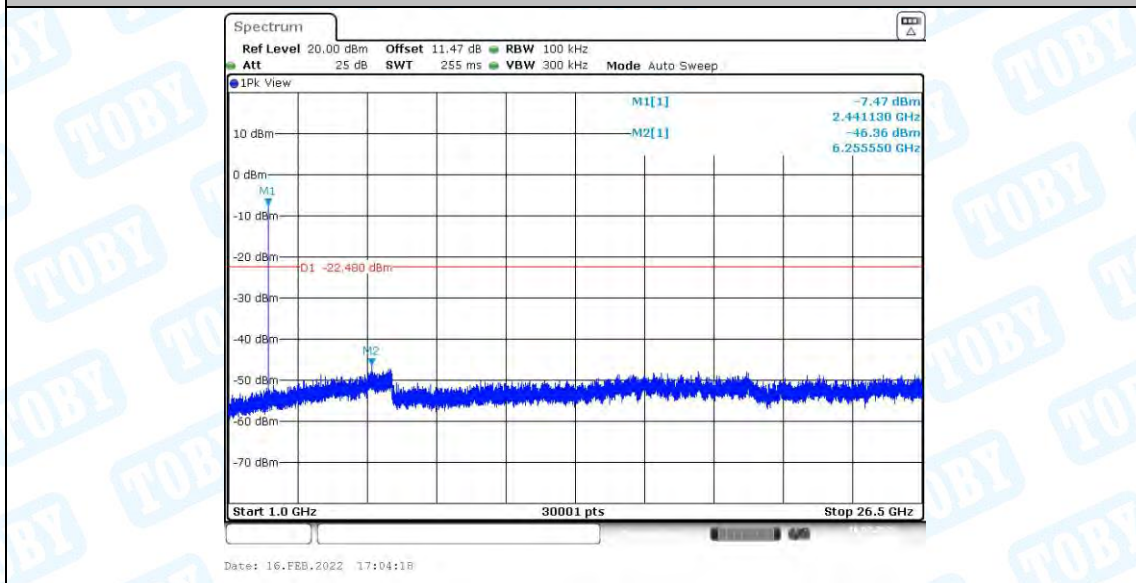
2DH5_Ant1_2441_0~Reference



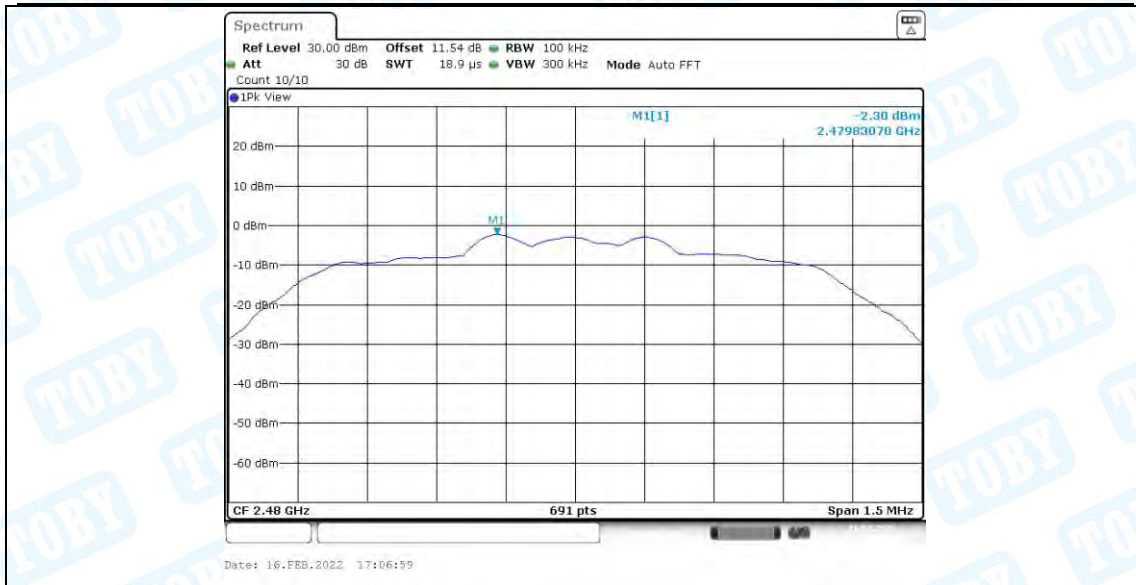
2DH5_Ant1_2441_30~1000



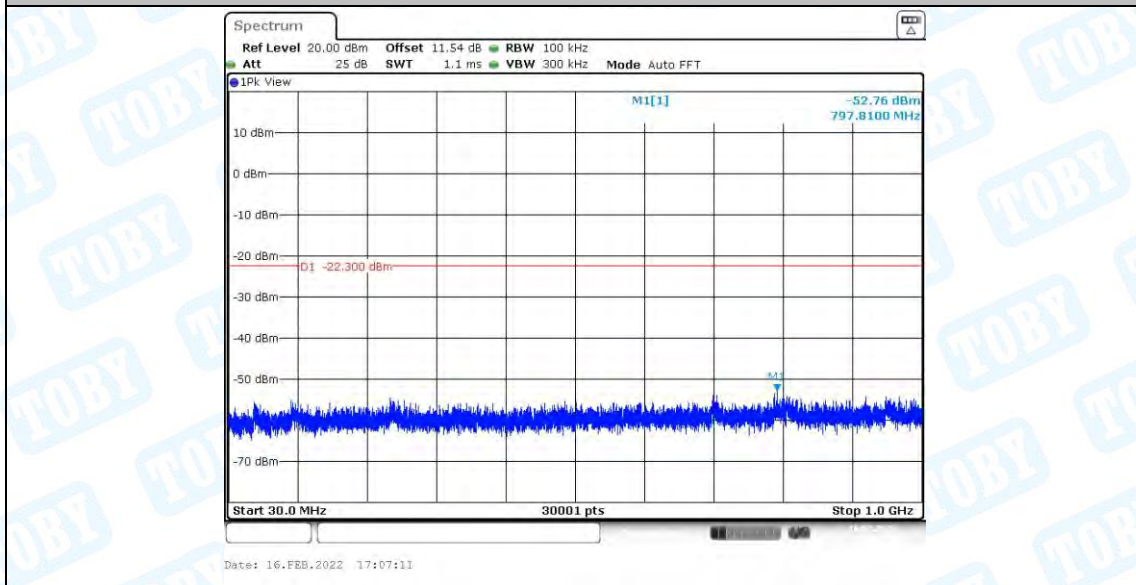
2DH5_Ant1_2441_1000~26500



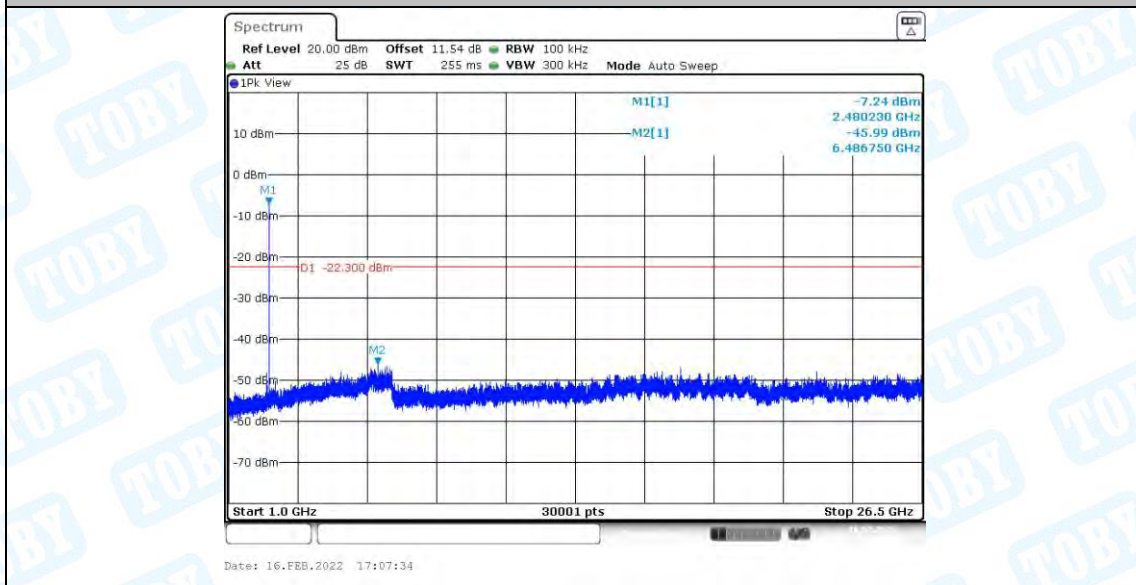
2DH5_Ant1_2480_0~Reference



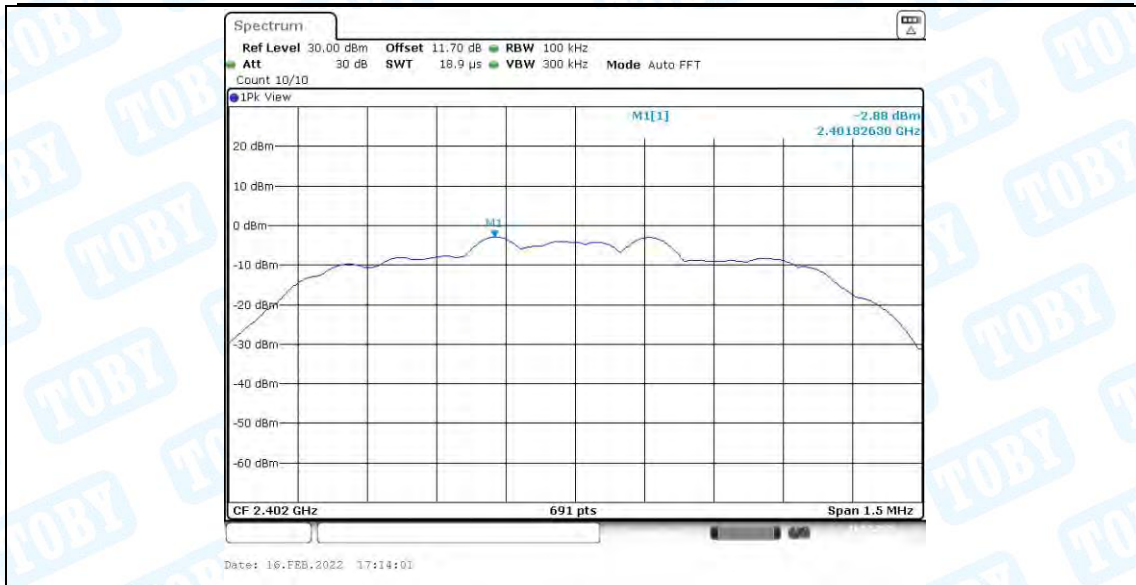
2DH5_Ant1_2480_30~1000



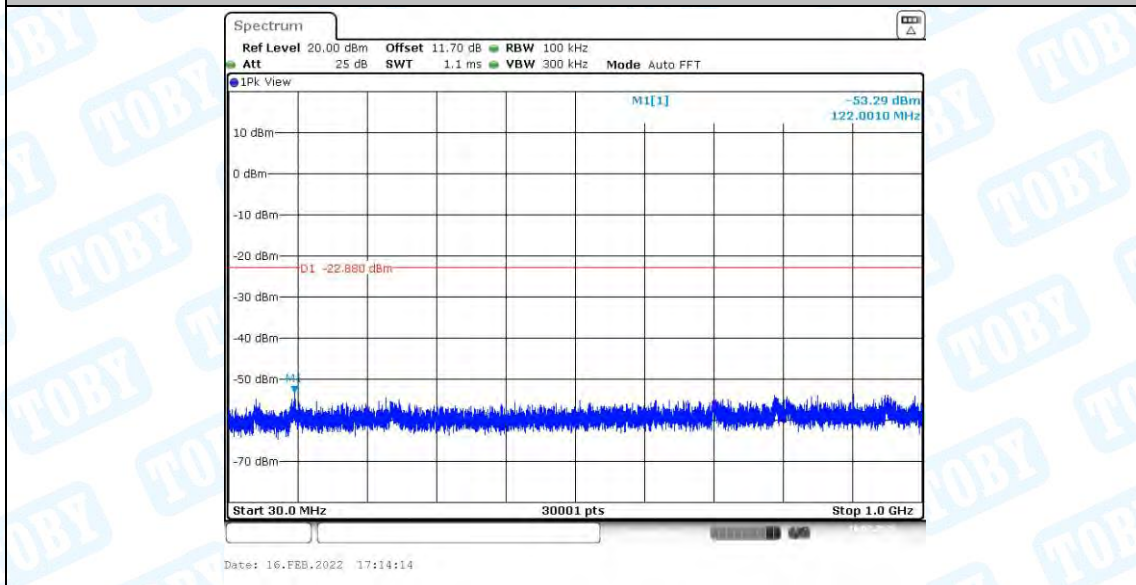
2DH5_Ant1_2480_1000~26500



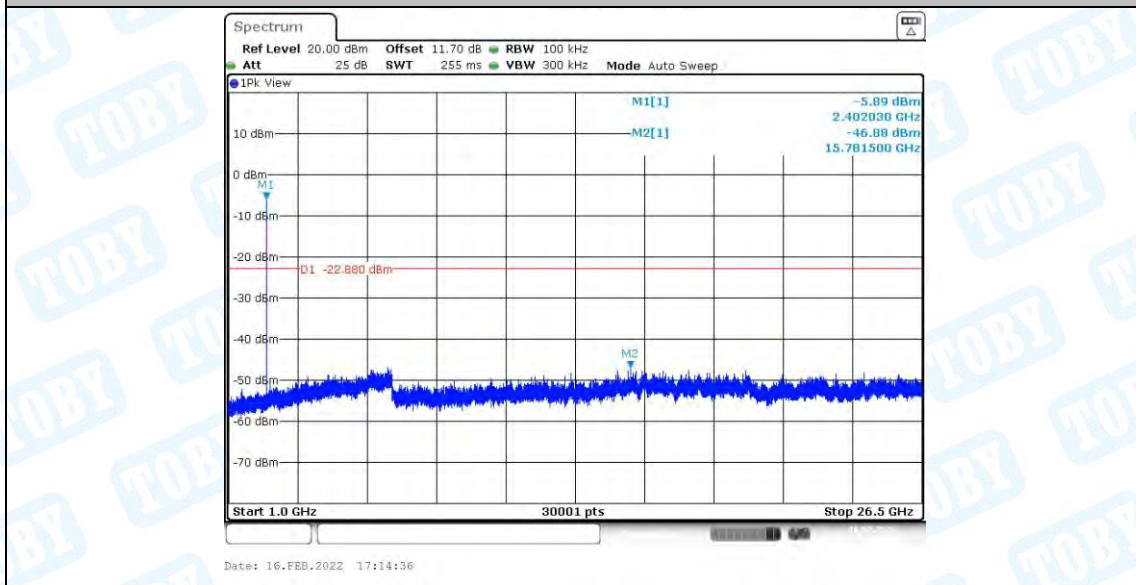
3DH5_Ant1_2402_0~Reference



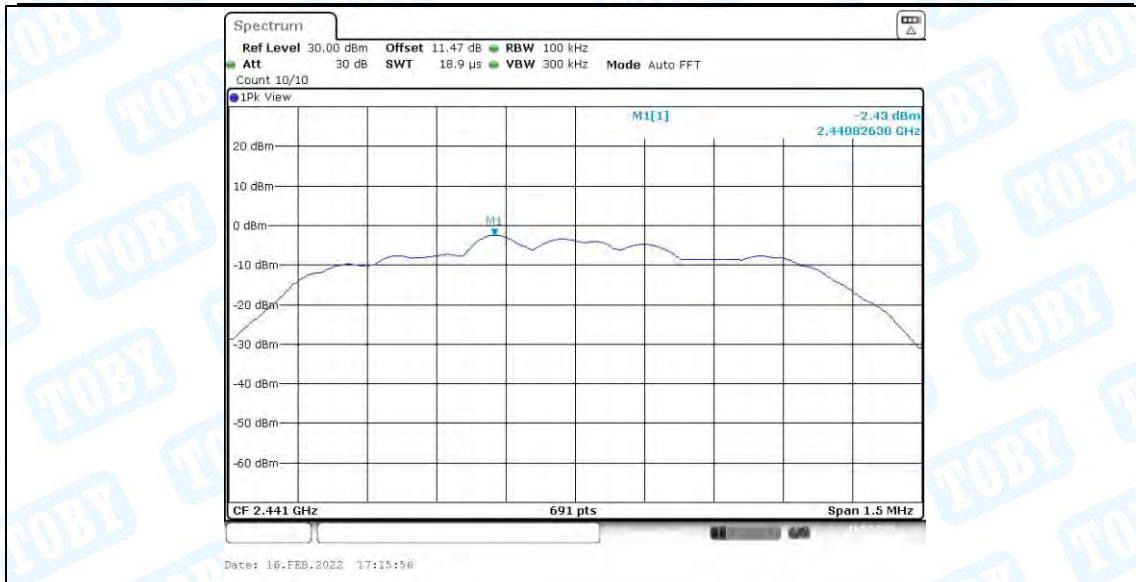
3DH5_Ant1_2402_30~1000



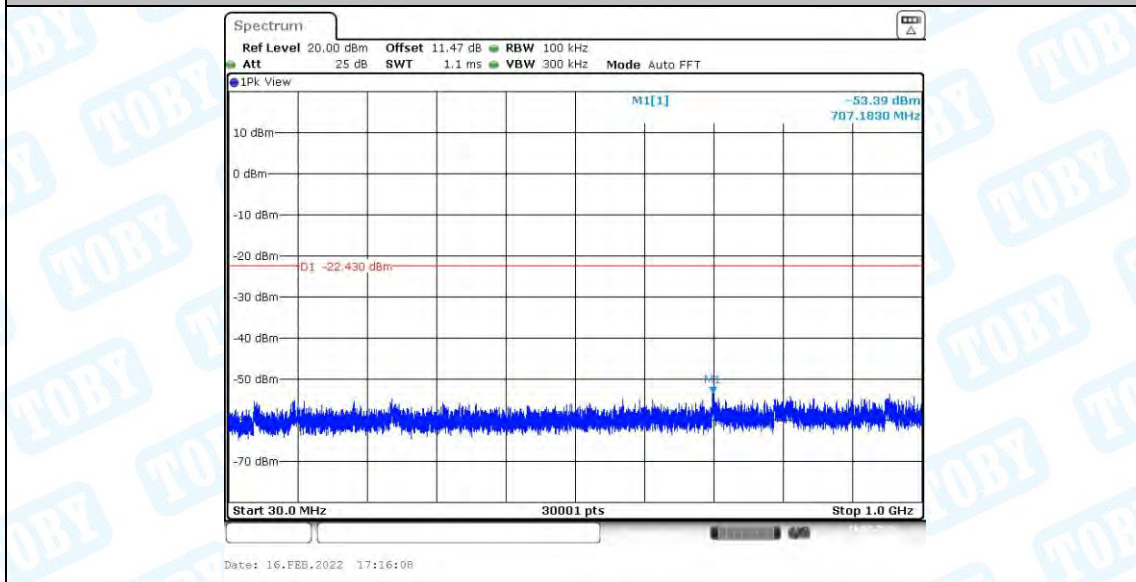
3DH5_Ant1_2402_1000~26500



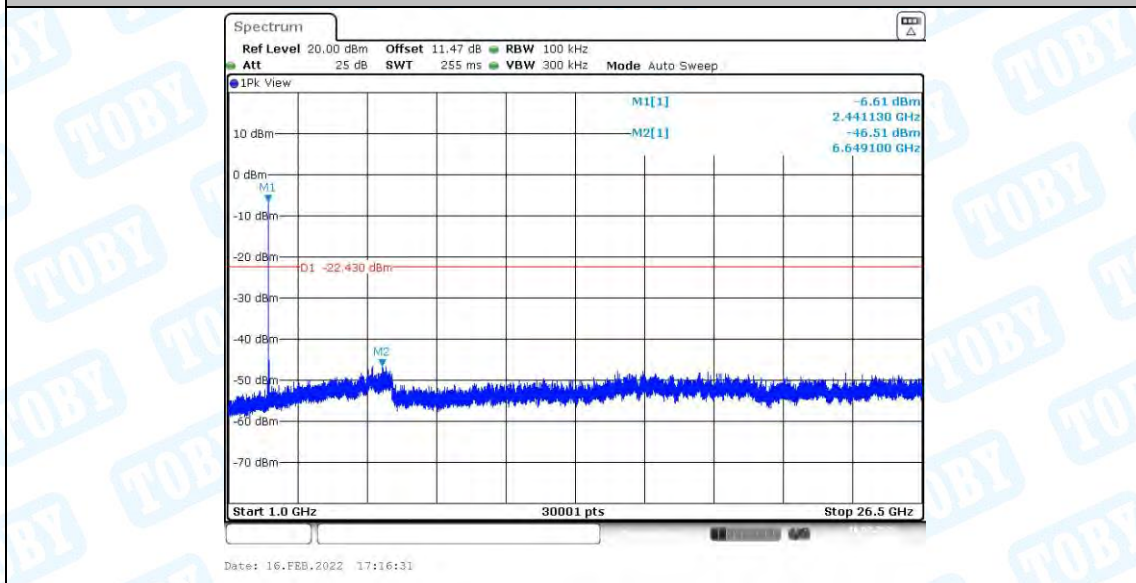
3DH5_Ant1_2441_0~Reference



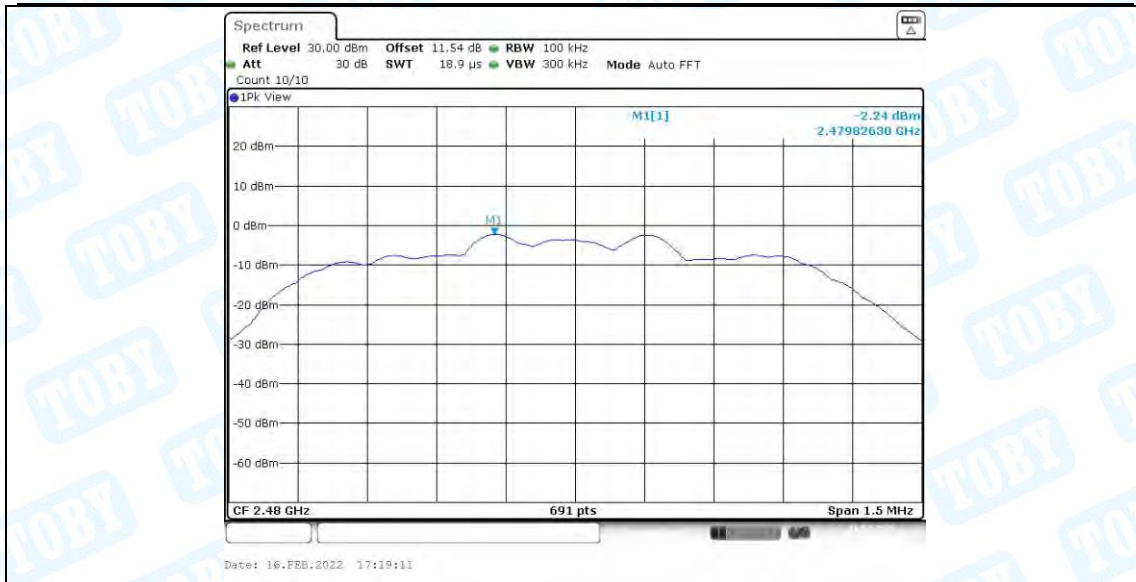
3DH5_Ant1_2441_30~1000



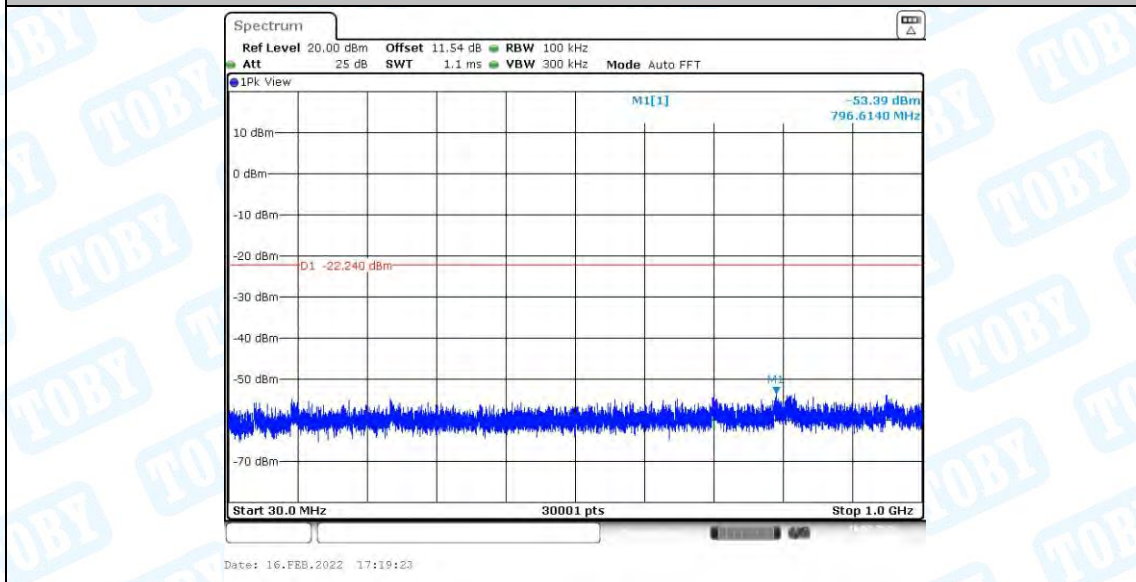
3DH5_Ant1_2441_1000~26500



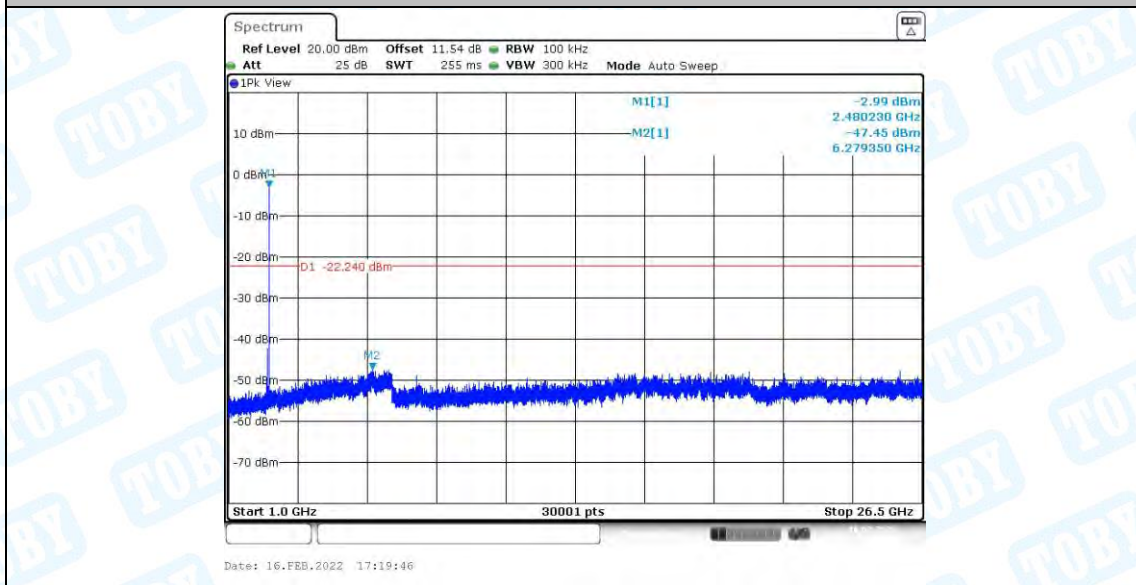
3DH5_Ant1_2480_0~Reference



3DH5_Ant1_2480_30~1000



3DH5_Ant1_2480_1000~26500

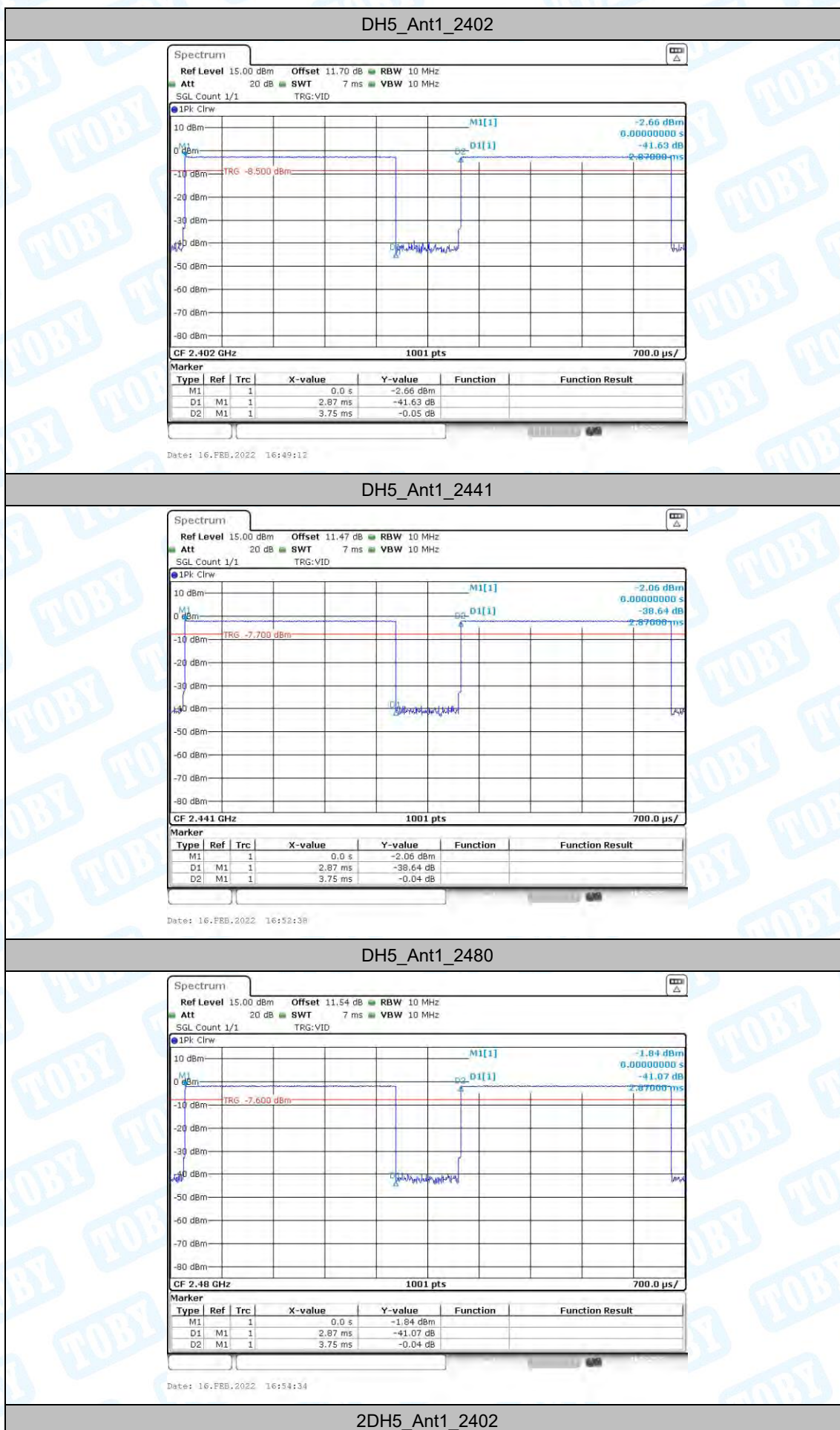


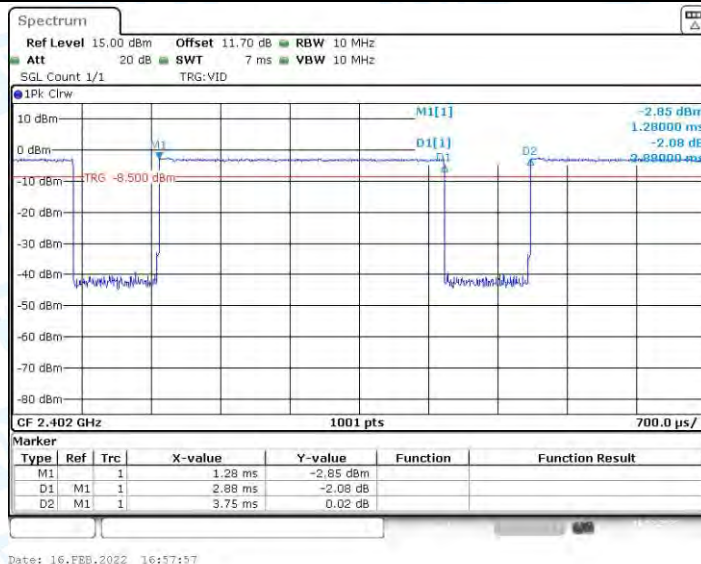
9. Duty Cycle

9.1. Test Result

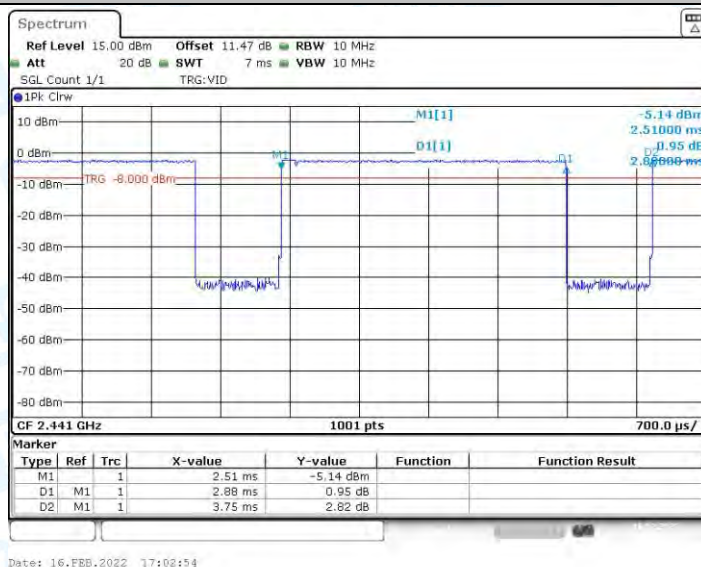
TestMode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	Limit	Verdict
DH5	Ant1	2402	2.87	3.75	76.53	---	---
		2441	2.87	3.75	76.53	---	---
		2480	2.87	3.75	76.53	---	---
2DH5	Ant1	2402	2.88	3.75	76.80	---	---
		2441	2.88	3.75	76.80	---	---
		2480	2.88	3.75	76.80	---	---
3DH5	Ant1	2402	2.88	3.75	76.80	---	---
		2441	2.89	3.75	77.07	---	---
		2480	2.88	3.75	76.80	---	---

9.2.Test Graphs

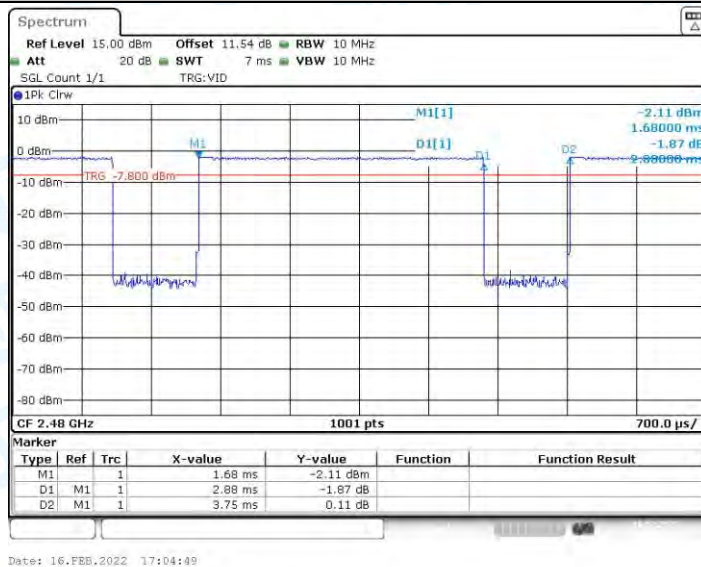




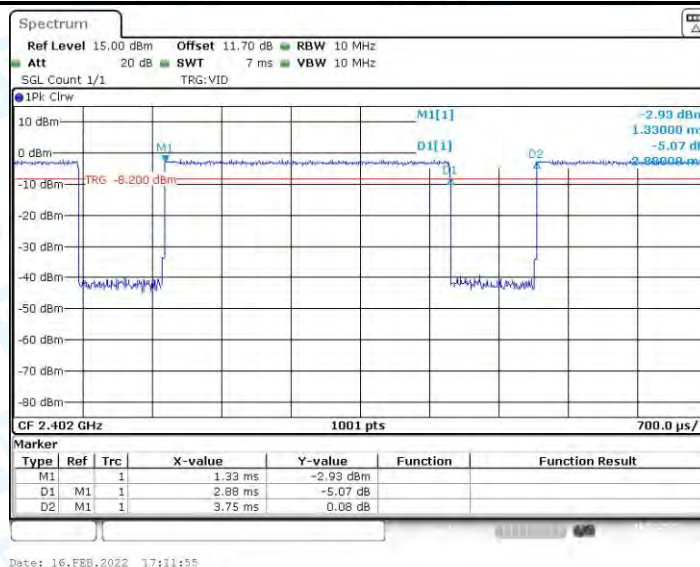
2DH5_Ant1_2441



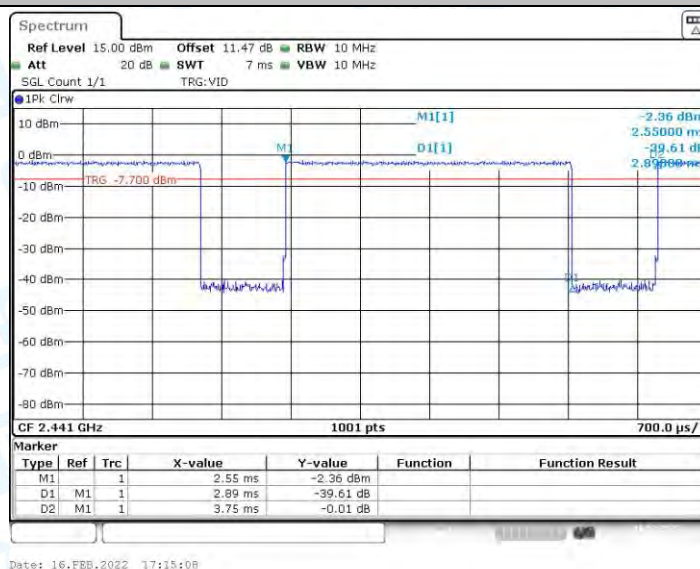
2DH5_Ant1_2480



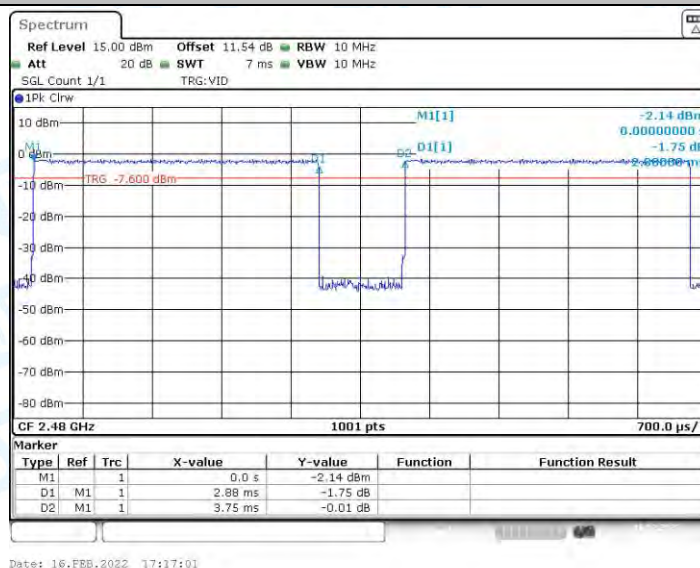
3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480



10. Emissions in Restricted Bands

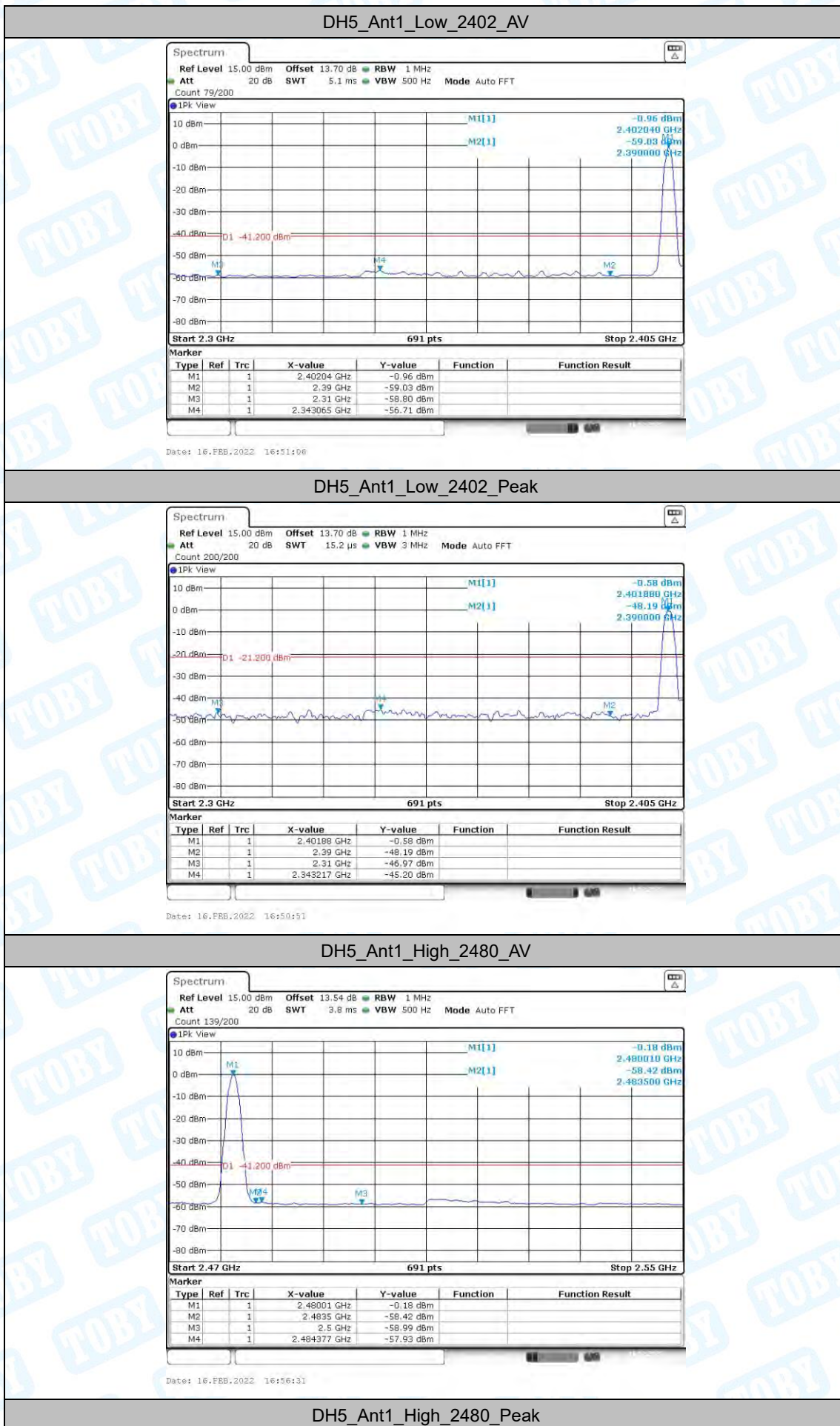
10.1. Test Result

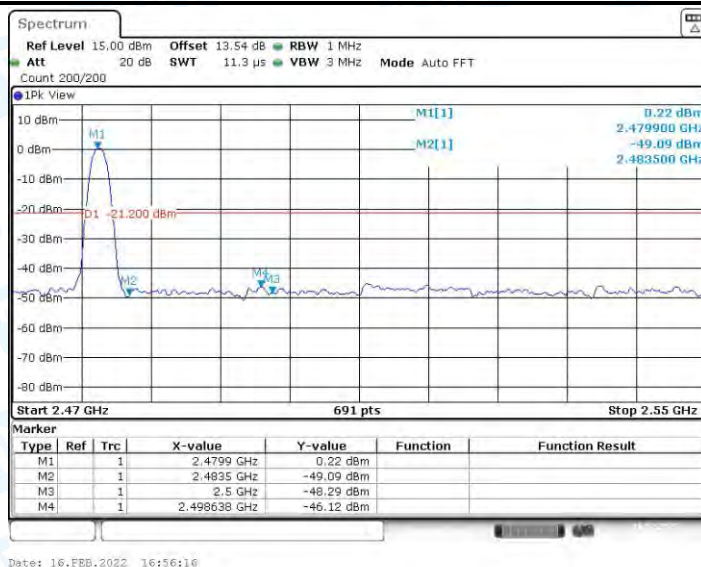
TestMode	Antenna	ChName	Channel	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	AV	2310.000	-58.8	≤-41.20	PASS
				AV	2343.065	-56.71	≤-41.20	PASS
				AV	2390.000	-59.03	≤-41.20	PASS
				Peak	2310.000	-46.97	≤-21.20	PASS
				Peak	2343.217	-45.2	≤-21.20	PASS
				Peak	2390.000	-48.19	≤-21.20	PASS
		High	2480	AV	2483.500	-58.42	≤-41.20	PASS
				AV	2484.377	-57.93	≤-41.20	PASS
				AV	2500.000	-58.99	≤-41.20	PASS
				Peak	2483.500	-49.09	≤-21.20	PASS
				Peak	2498.638	-46.12	≤-21.20	PASS
				Peak	2500.000	-48.29	≤-21.20	PASS
2DH5	Ant1	Low	2402	AV	2310.000	-59.46	≤-41.20	PASS
				AV	2340.326	-57.14	≤-41.20	PASS
				AV	2390.000	-59.31	≤-41.20	PASS
				Peak	2310.000	-47.64	≤-21.20	PASS
				Peak	2342.761	-44.68	≤-21.20	PASS
				Peak	2390.000	-48.99	≤-21.20	PASS
		High	2480	AV	2483.500	-57.78	≤-41.20	PASS
				AV	2483.797	-57.8	≤-41.20	PASS
				AV	2500.000	-58.89	≤-41.20	PASS
				Peak	2483.500	-48.81	≤-21.20	PASS
				Peak	2484.029	-45.83	≤-21.20	PASS
				Peak	2500.000	-48.52	≤-21.20	PASS
3DH5	Ant1	Low	2402	AV	2310.000	-59.56	≤-41.20	PASS
				AV	2341.087	-57.25	≤-41.20	PASS
				AV	2390.000	-59.28	≤-41.20	PASS
				Peak	2310.000	-47.8	≤-21.20	PASS
				Peak	2343.978	-45.5	≤-21.20	PASS
				Peak	2390.000	-48.28	≤-21.20	PASS
		High	2480	AV	2483.500	-57.87	≤-41.20	PASS
				AV	2483.797	-57.91	≤-41.20	PASS
				AV	2500.000	-58.92	≤-41.20	PASS
				Peak	2483.500	-48.52	≤-21.20	PASS
				Peak	2484.145	-45.92	≤-21.20	PASS
				Peak	2500.000	-48.36	≤-21.20	PASS

Note:

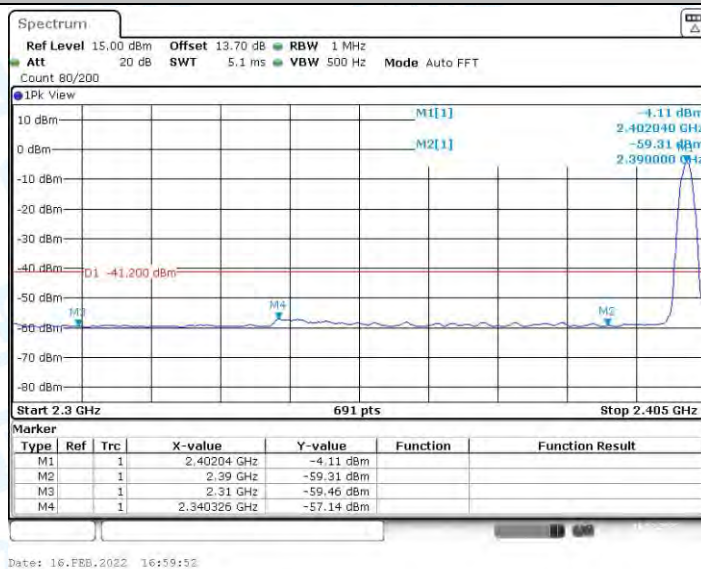
- The Antenna Gain is compensated in the graph.
- The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

10.2. Test Graphs

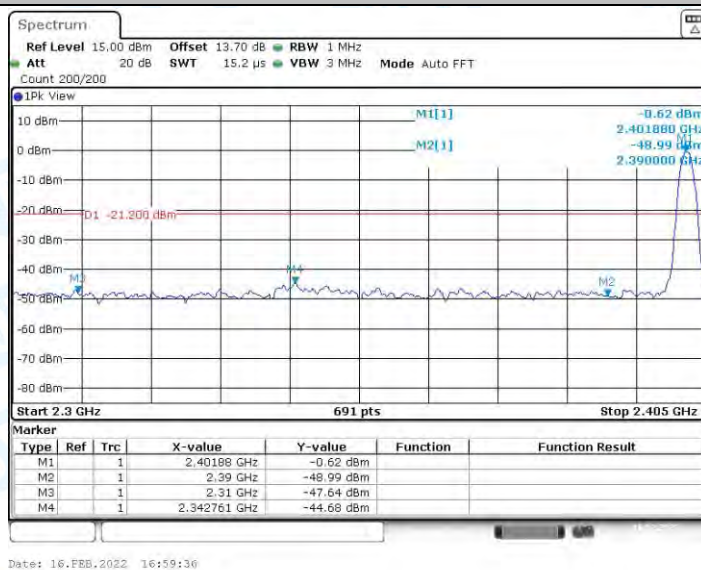




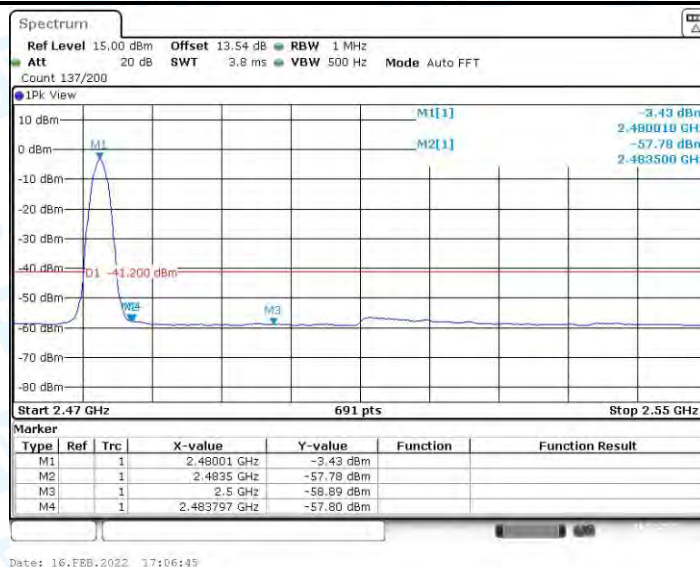
2DH5_Ant1_Low_2402_AV



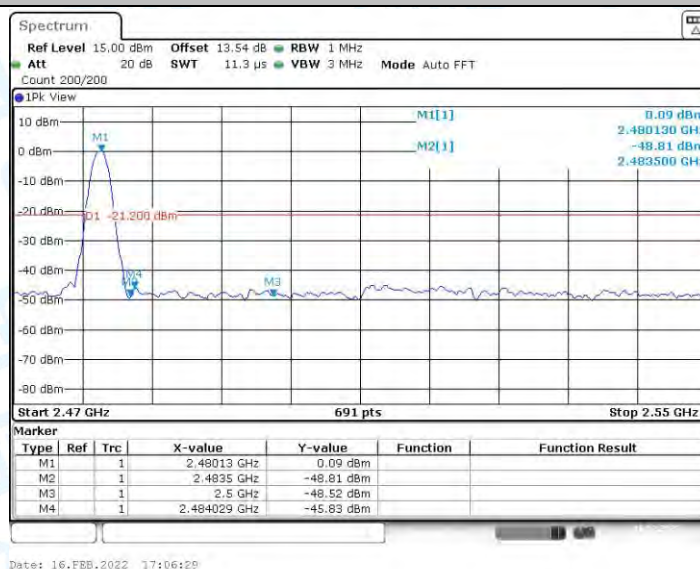
2DH5_Ant1_Low_2402_Peak



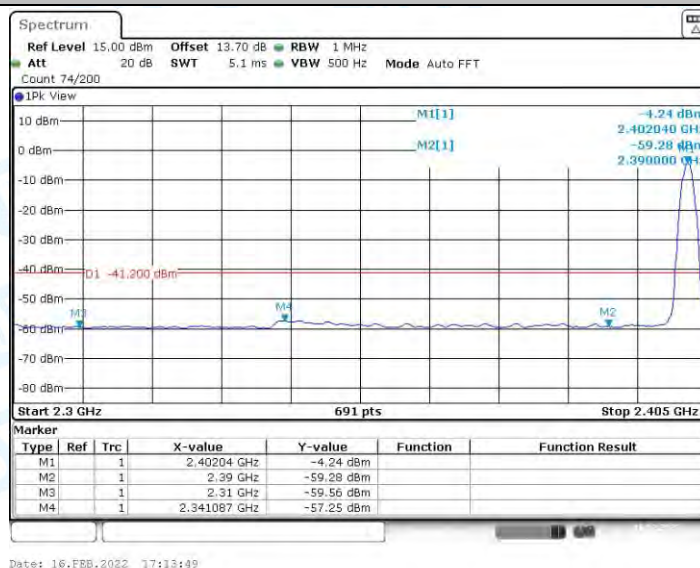
2DH5_Ant1_High_2480_AV



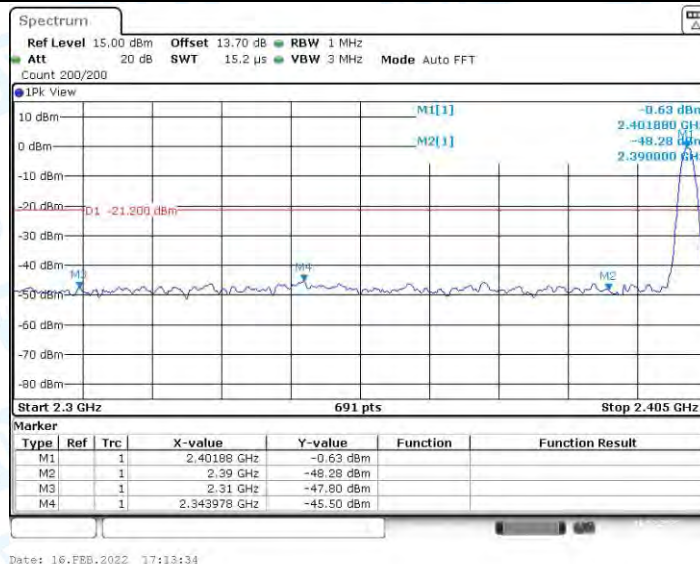
2DH5_Ant1_High_2480_Peak



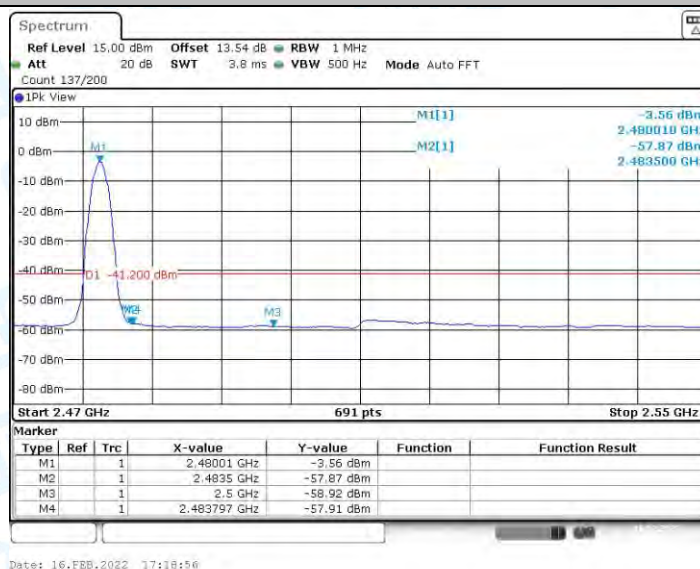
3DH5_Ant1_Low_2402_AV



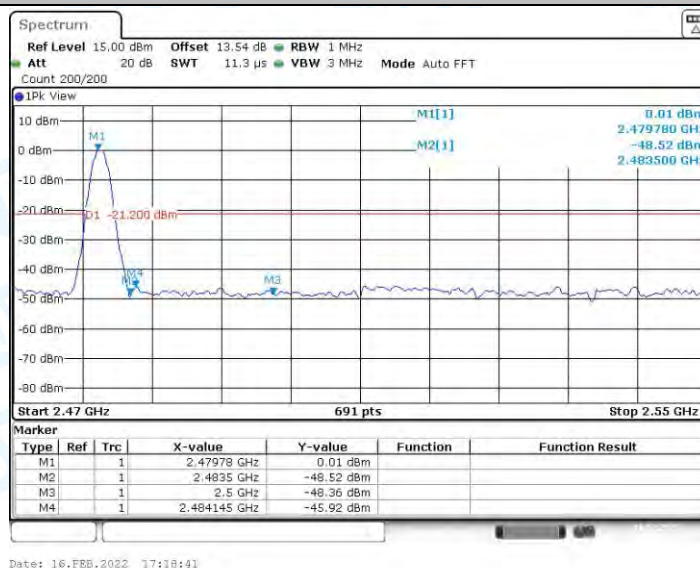
3DH5_Ant1_Low_2402_Peak



3DH5_Ant1_High_2480_AV



3DH5_Ant1_High_2480_Peak



-----End of the report-----